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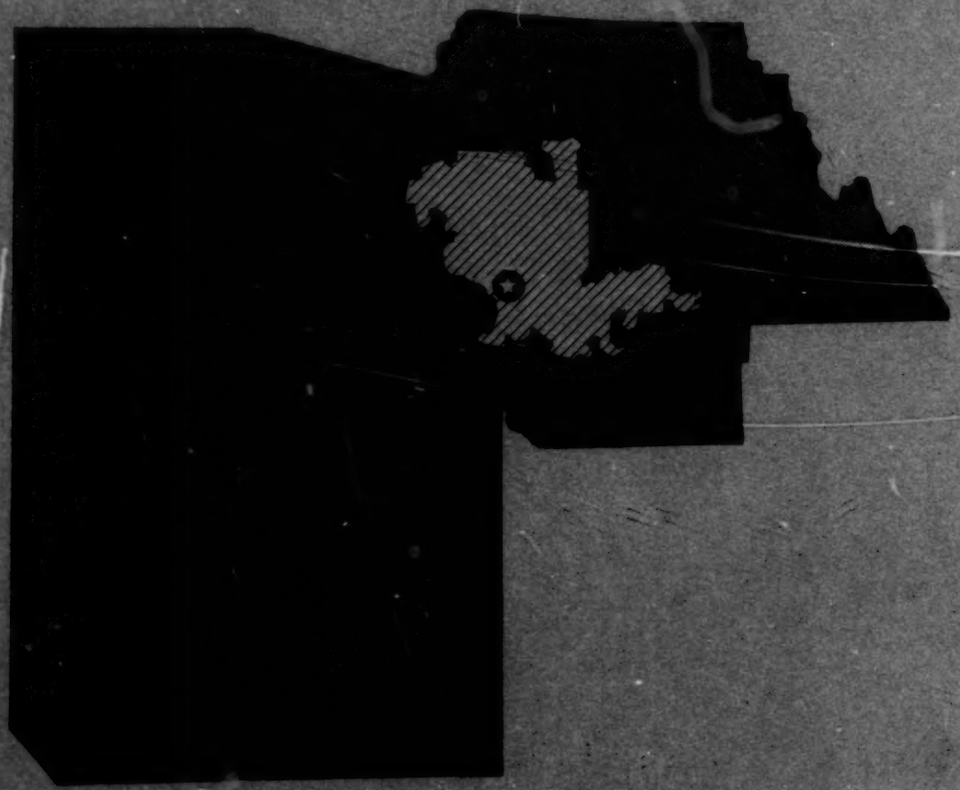
Area Wage Survey

Phoenix, Arizona, Metropolitan Area June 1990

U.S. Department of Labor
Bureau of Labor Statistics

Bulletin 3055-21



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Preface

This bulletin provides results of a June 1990 survey of occupational earnings in the Phoenix, AZ, Metropolitan Statistical Area. The survey was made as part of the Bureau of Labor Statistics' area wage survey program. It was conducted by the Bureau's regional office in San Francisco, CA, under the general direction of Caryl L. O'Keefe, Assistant Regional Commissioner for Operations. The Bureau wishes to express its appreciation for the cooperation of the many firms that provided the data on which this bulletin is based.

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Note:

Available from the Bureau's regional offices are five summary releases: *Occupational Earnings and Wage Trends in Metropolitan Areas* (3 parts); *Occupational Earnings in All Metropolitan Areas* (combined); and *Wage Differences Among Metropolitan Areas.*

A summary bulletin, *Area Wage Surveys, Selected Metropolitan Areas,* provides data for all areas surveyed under this program during the year. It can be purchased from the Superintendent of Documents or from the BLS Publications Sales Center in Chicago.

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Area Wage Survey

Phoenix, Arizona, Metropolitan Area June 1990

U.S. Department of Labor
Elizabeth Dole, Secretary

Bureau of Labor Statistics
Janet L. Norwood, Commissioner
August 1990

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Introduction

The Bureau of Labor Statistics is restructuring its area wage survey program to reflect changes in the number and geographic boundaries of the Nation's metropolitan statistical areas. In place of annual studies of 70 areas, the new program, when fully implemented in 1990, will cover 32 areas on an annual basis and two groups of 29 areas in alternate years.

This is 1 of the 32 areas being surveyed each year. While occupational earnings are presented annually (A-series tables), information on establishment practices and employee benefits (B-series tables) is presented every fourth year, when Bureau field representatives obtain such data during personal visits to respondents. This report has no B-series tables.

A major consideration in the area wage survey program is the need to describe the level and movement of wages in a variety of labor markets, through the analysis of (1) the level and distribution of wages by occupation, and (2) the movement of wages by occupational category and skill level. The program develops information that may be used for many purposes, including wage and salary administration, collective bargaining, and assistance in determining plant location. Survey results also are used by the U.S. Department of Labor to make wage determinations under the Service Contract Act of 1965.

Earnings

Tables A-1 through A-6 provide estimates of straight-time weekly or hourly earnings for workers in occupations common to a variety of manufacturing and nonmanufacturing industries. Where possible, occupations with related duties (e.g., accounting clerks and payroll clerks) are clustered to facilitate comparison. The occupations are defined in appendix B. For 31 large survey areas, tables A-12 through A-17 provide similar data for establishments employing 500 workers or more.

Table A-7 provides indexes and percent changes in average hourly earnings for office clerical workers, electronic data processing workers, industrial nurses, skilled maintenance trades workers, and unskilled plant workers. Where possible, data are presented for all industries and for manufacturing and nonmanufacturing separately. Data are not presented for skilled maintenance workers in nonmanufacturing because the number of workers employed in this occupational group in nonmanufacturing is too small to warrant separate presentation. This table provides a measure of wage trends after elimination of changes in average earnings caused by employment shifts among establishments as well as turnover of establishments included in survey samples. For further details, see appendix A.

Tables A-8 through A-11 provide measures of pay relationships in establishments. These measures may differ considerably from the pay relationships of overall area averages published in tables A-1 through A-6. See appendix A for details.

Appendixes

Appendix A describes the methods and concepts used in the area wage survey program and provides information on the scope of the survey.

Appendix B provides job descriptions used by Bureau field representatives to classify workers by occupation.

Table A-1. Weekly earnings of office workers in Phoenix, AZ, June 1990

Occupation and industry division	Number of workers	Average weekly hours[1] (standard)	Weekly earnings (in dollars)[2]			Number of workers receiving straight-time weekly earnings (in dollars) of —																				
			Mean[3]	Median[3]	Middle range[3]	180 and under 200	200 – 220	220 – 240	240 – 260	260 – 280	280 – 300	300 – 320	320 – 340	340 – 360	360 – 380	380 – 400	400 – 420	420 – 440	440 – 460	460 – 480	480 – 500	500 – 540	540 – 580	580 – 620	620 – 660	660 and over
Secretarial and keyboarding occupations																										
Secretaries	3,543	40.0	420.00	414.50	360.50– 473.00	–	2	2	20	61	112	101	264	312	332	311	326	296	361	264	171	331	177	60	26	14
Manufacturing	1,082	40.0	447.50	443.00	397.50– 486.00	–	–	–	–	–	12	12	28	44	72	116	126	116	114	145	73	94	87	25	10	8
Nonmanufacturing	2,461	40.0	408.00	399.50	347.00– 457.00	–	2	2	20	61	100	89	236	268	260	195	200	180	247	119	98	237	90	35	16	6
Secretaries I	330	40.0	335.00	338.00	299.50– 353.00	–	2	2	19	11	49	30	80	64	22	19	15	5	4	2	–	6	–	–	–	–
Nonmanufacturing	278	40.0	327.00	333.00	295.00– 351.00	–	2	2	19	11	46	30	74	52	18	10	9	–	–	1	–	6	–	–	–	–
Secretaries II	936	40.0	366.50	365.00	336.50– 397.50	–	–	–	1	48	56	37	132	158	141	141	85	59	47	17	2	11	1	–	–	–
Manufacturing	260	40.0	385.50	389.50	361.50– 411.00	–	–	–	–	–	9	10	22	20	42	74	35	25	8	9	2	4	–	–	–	–
Nonmanufacturing	676	40.0	359.50	355.00	330.50– 387.50	–	–	–	1	48	47	27	110	138	99	67	50	34	39	8	–	7	1	–	–	–
Secretaries III	1,392	40.0	432.00	435.50	392.00– 471.00	–	–	–	–	2	7	34	51	74	117	125	177	158	230	147	74	139	43	10	3	1
Manufacturing	466	40.0	443.50	445.00	412.00– 478.00	–	–	–	–	–	–	2	–	11	24	30	73	72	79	100	42	26	6	1	–	–
Nonmanufacturing	926	40.0	426.00	424.00	371.50– 481.50	–	–	–	–	2	7	32	51	63	93	95	104	36	151	47	32	113	37	9	3	1
Transportation and utilities	95	40.0	488.50	475.50	444.50– 535.00	–	–	–	–	–	–	2	2	2	–	2	6	7	12	17	4	19	9	9	3	1
Secretaries IV	759	40.0	479.00	481.00	436.00– 518.50	–	–	–	–	–	–	–	1	18	52	26	48	70	76	81	88	156	114	20	11	–
Manufacturing	266	40.0	511.00	511.00	472.00– 553.50	–	–	–	–	–	–	–	–	1	–	3	11	13	23	27	29	63	72	18	6	–
Nonmanufacturing	493	40.0	461.50	462.50	418.00– 501.50	–	–	–	–	–	–	–	1	15	52	23	37	57	53	54	59	93	42	2	5	–
Secretaries V	114	40.0	560.00	564.50	495.50– 610.00	–	–	–	–	–	–	–	–	–	–	–	1	4	4	13	7	15	19	26	12	* 13
Nonmanufacturing	76	40.0	553.00	557.50	497.00– 601.00	–	–	–	–	–	–	–	–	–	–	–	–	3	4	5	7	14	10	20	8	5
Typists	76	39.5	308.50	300.00	278.00– 336.00	–	–	3	14	2	9	13	18	3	14	–	–	–	–	–	–	–	–	–	–	–
Nonmanufacturing	75	39.5	308.00	300.00	277.50– 336.00	–	–	3	14	2	9	13	17	3	14	–	–	–	–	–	–	–	–	–	–	–
Typists I	76	39.5	308.50	300.00	278.00– 336.00	–	–	3	14	2	9	13	18	3	14	–	–	–	–	–	–	–	–	–	–	–
Nonmanufacturing	75	39.5	308.00	300.00	277.50– 336.00	–	–	3	14	2	9	13	17	3	14	–	–	–	–	–	–	–	–	–	–	–
Word processors	407	39.5	355.00	350.00	320.00– 388.50	–	–	12	9	7	52	16	88	46	60	37	36	11	9	6	2	4	12	–	–	–
Manufacturing	54	40.0	375.50	363.00	339.50– 396.00	–	–	–	–	–	1	2	12	12	7	9	–	5	2	2	2	–	–	–	–	–
Nonmanufacturing	353	39.5	352.00	345.50	315.00– 384.00	–	–	12	9	7	51	14	76	34	53	28	36	6	7	4	–	4	12	–	–	–
Word processors I	199	40.0	311.50	320.00	282.00– 325.50	–	–	12	9	7	52	15	65	24	3	3	6	–	3	–	–	–	–	–	–	–
Nonmanufacturing	185	40.0	309.50	320.00	281.50– 325.50	–	–	12	9	7	51	13	60	20	3	1	6	–	3	–	–	–	–	–	–	–
Word processors II	208	39.0	397.00	383.00	366.00– 418.00	–	–	–	–	–	–	1	23	22	57	34	30	11	6	6	2	4	12	–	–	–
Nonmanufacturing	168	39.0	399.00	384.00	366.00– 418.00	–	–	–	–	–	–	1	16	14	50	27	30	6	4	4	–	4	12	–	–	–
Key entry operators	1,129	39.5	298.50	284.00	250.00– 333.50	–	5	140	222	152	155	105	85	94	56	37	14	25	11	16	8	4	–	–	–	–
Manufacturing	228	40.0	308.00	308.00	255.00– 357.50	–	–	18	43	34	16	6	25	31	30	11	3	7	2	2	–	–	–	–	–	–
Nonmanufacturing	901	39.5	296.00	283.50	249.50– 325.50	–	5	122	179	118	139	99	60	63	26	26	11	18	9	14	8	4	–	–	–	–
Transportation and utilities	31	40.0	369.00	350.50	319.50– 417.50	–	–	–	–	–	4	9	1	2	1	3	4	3	–	1	2	1	–	–	–	–
Key entry operators I	723	39.5	285.00	267.50	244.50– 309.50	–	5	122	176	111	98	68	37	34	13	20	7	13	9	9	1	–	–	–	–	–
Manufacturing	57	40.0	281.50	268.00	260.00– 280.50	–	–	–	6	25	14	4	2	2	2	2	–	–	–	–	–	–	–	–	–	–
Nonmanufacturing	666	39.5	285.00	267.50	242.50– 310.00	–	5	122	170	86	84	64	35	32	11	18	7	13	9	9	1	–	–	–	–	–
Key entry operators II	406	40.0	323.00	323.00	274.50– 357.50	–	–	18	46	41	57	37	48	60	43	17	7	12	2	7	7	4	–	–	–	–
Nonmanufacturing	235	40.0	327.50	315.00	285.50– 347.00	–	–	–	9	32	55	35	25	31	15	8	4	5	–	5	7	4	–	–	–	–

See footnotes at end of tables.

Table A-1. Weekly earnings of office workers in Phoenix, AZ, June 1990 —Continued

Occupation and industry division	Number of workers	Average weekly hours[1] (standard)	Weekly earnings (in dollars)[2]			Number of workers receiving straight-time weekly earnings (in dollars) of —																					
			Mean[2]	Median[2]	Middle range[2]	180 and under 200	200 – 220	220 – 240	240 – 260	260 – 280	280 – 300	300 – 320	320 – 340	340 – 360	360 – 380	380 – 400	400 – 420	420 – 440	440 – 460	460 – 480	480 – 500	500 – 540	540 – 580	580 – 620	620 – 660	660 and over
Other clerical occupations																											
Accounting clerks	3,367	40.0	331.00	322.50	282.00– 365.00	–	3	210	250	280	498	301	486	353	313	164	130	138	101	51	20	34	18	17	–	–
Manufacturing	526	40.0	388.00	385.50	340.50– 426.00	–	–	–	19	7	20	29	49	80	50	83	52	27	26	27	8	22	11	16	–	–
Nonmanufacturing	2,841	40.0	320.50	318.00	278.50– 354.50	–	3	210	231	273	478	272	437	273	263	81	78	111	75	24	12	12	7	1	–	–
Transportation and utilities	385	40.0	339.50	311.00	282.00– 389.50	–	–	–	18	41	99	55	49	14	5	10	8	9	56	6	5	8	2	–	–	–
Accounting clerks I	224	40.0	261.00	256.00	228.50– 283.50	–	3	71	63	15	29	18	24	1	–	–	–	–	–	–	–	–	–	–	–	–
Nonmanufacturing	218	40.0	259.50	254.00	228.50– 281.00	–	3	71	63	15	28	16	22	–	–	–	–	–	–	–	–	–	–	–	–	–
Accounting clerks II	1,837	40.0	311.00	299.00	268.00– 346.00	–	–	139	187	257	340	162	203	206	116	96	25	43	54	–	2	5	2	–	–	–
Manufacturing	254	40.0	347.00	350.00	312.00– 390.00	–	–	–	19	7	19	27	37	43	25	48	15	5	2	–	2	3	2	–	–	–
Nonmanufacturing	1,583	40.0	305.50	290.00	265.00– 340.00	–	–	139	168	250	321	135	166	163	91	48	10	38	52	–	–	2	–	–	–	–
Transportation and utilities	245	40.0	327.50	296.50	281.50– 344.00	–	–	–	12	35	95	28	6	13	2	1	–	–	51	–	–	2	–	–	–	–
Accounting clerks III	887	40.0	354.00	346.00	313.00– 385.00	–	–	–	–	8	128	113	166	98	144	50	55	62	27	25	4	4	3	–	–	–
Manufacturing	157	40.0	394.00	386.00	351.00– 421.00	–	–	–	–	–	–	–	10	35	22	31	19	7	14	14	2	2	1	–	–	–
Nonmanufacturing	730	40.0	345.50	330.00	310.50– 367.00	–	–	–	–	8	128	113	156	63	122	19	36	55	13	11	2	2	2	–	–	–
Accounting clerks IV	419	40.0	406.00	388.50	345.50– 449.50	–	–	–	–	–	1	8	93	48	53	18	50	33	20	26	14	25	13	17	–	–
Manufacturing	109	40.0	479.00	463.00	421.00– 531.00	–	–	–	–	–	–	–	–	1	3	4	18	15	10	13	4	17	8	16	–	–
Nonmanufacturing	310	40.0	380.50	365.00	333.00– 411.00	–	–	–	–	–	1	8	93	47	50	14	32	18	10	13	10	8	5	1	–	–
Payroll clerks	298	40.0	369.50	368.00	301.50– 417.50	–	–	–	2	28	16	46	33	20	21	24	37	5	12	28	20	5	1	–	–	–
Manufacturing	92	40.0	398.50	402.00	392.00– 417.50	–	–	–	2	–	2	1	–	11	4	23	28	5	4	10	1	1	–	–	–	–
Nonmanufacturing	206	40.0	356.50	326.00	300.00– 418.50	–	–	–	–	28	14	45	33	9	17	1	9	–	8	18	19	4	1	–	–	–
Transportation and utilities	37	40.0	374.50	339.00	310.50– 442.50	–	–	–	–	–	1	9	10	–	4	1	–	–	7	3	–	1	1	–	–	–
File clerks	150	39.5	262.50	261.50	219.00– 305.00	16	22	18	18	31	5	22	3	–	15	–	–	–	–	–	–	–	–	–	–	–
Nonmanufacturing	143	39.5	259.50	253.00	216.00– 289.00	16	22	18	18	31	5	16	3	–	14	–	–	–	–	–	–	–	–	–	–	–
File clerks I	61	40.0	228.50	216.00	202.00– 270.50	15	19	5	4	14	1	3	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Nonmanufacturing	59	40.0	225.50	216.00	196.00– 270.50	15	19	5	4	14	1	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–
File clerks II	89	39.0	285.50	278.50	244.50– 306.00	1	3	13	14	17	4	19	3	–	15	–	–	–	–	–	–	–	–	–	–	–
Nonmanufacturing	84	39.0	283.00	261.50	244.50– 305.00	1	3	13	14	17	4	15	3	–	14	–	–	–	–	–	–	–	–	–	–	–
Order clerks	205	40.0	293.00	277.00	250.00– 346.00	–	–	30	53	30	22	1	4	34	22	2	2	3	–	2	–	–	–	–	–	–
Manufacturing	108	40.0	281.00	250.00	250.00– 337.00	–	–	19	42	12	4	1	4	16	4	2	2	–	–	2	–	–	–	–	–	–
Order clerks I	124	40.0	269.50	250.00	250.00– 269.00	–	–	30	53	12	4	1	4	14	2	–	2	–	–	2	–	–	–	–	–	–
Receptionists	78	40.0	260.50	256.00	229.50– 286.50	4	5	21	13	15	5	8	5	–	–	2	–	–	–	–	–	–	–	–	–	–
Nonmanufacturing	68	40.0	252.00	243.00	228.50– 278.50	4	5	21	13	14	4	3	4	–	–	–	–	–	–	–	–	–	–	–	–	–
Switchboard operators	256	40.0	239.00	219.00	210.00– 243.00	4	125	33	51	5	7	9	2	10	7	1	–	1	–	–	1	–	–	–	–	–
Nonmanufacturing	238	40.0	231.00	218.00	210.00– 240.00	4	125	32	51	4	6	7	2	5	–	1	–	–	–	–	1	–	–	–	–	–
Switchboard operator-receptionists	787	39.5	275.50	274.00	246.00– 300.00	10	25	113	156	109	156	121	40	27	–	19	7	4	–	–	–	–	–	–	–	–
Manufacturing	174	40.0	262.00	257.50	230.00– 299.50	–	23	48	27	29	9	24	2	5	–	–	6	1	–	–	–	–	–	–	–	–
Nonmanufacturing	613	39.5	279.00	280.00	247.00– 300.00	10	2	65	129	80	147	97	38	22	–	19	1	3	–	–	–	–	–	–	–	–
Transportation and utilities	29	40.0	290.50	296.50	180.00– 350.00	8	–	–	–	–	7	3	3	5	–	–	–	3	–	–	–	–	–	–	–	–

* Workers were distributed as follows: 10 at 660 to 700; 1 at 700 to 740; 1 at 740 to 780; and 1 at 780 to 820.

Also see footnotes at end of tables.

Table A-2. Weekly earnings of professional and technical workers in Phoenix, AZ, June 1990

Occupation and industry division	Number of workers	Average weekly hours[1] (standard)	Weekly earnings (in dollars)[2]			Number of workers receiving straight-time weekly earnings (in dollars) of —																				
			Mean[3]	Median[3]	Middle range[3]	200 and under 240	240 – 280	280 – 320	320 – 360	360 – 400	400 – 440	440 – 480	480 – 520	520 – 560	560 – 600	600 – 640	640 – 680	680 – 720	720 – 760	760 – 800	800 – 840	840 – 920	920 – 1000	1000 – 1080	1080 – 1160	1160 – 1240
Computer systems analysts	1,325	40.0	800.00	802.00	686.00– 916.00	–	–	–	–	–	–	12	22	46	56	66	105	123	132	97	100	246	194	95	24	7
Manufacturing	468	40.0	789.00	778.00	699.00– 872.00	–	–	–	–	–	–	–	7	10	19	23	41	51	57	52	46	80	53	20	5	4
Nonmanufacturing	857	40.0	806.00	819.50	683.50– 933.00	–	–	–	–	–	–	12	15	36	37	43	64	72	75	45	54	166	141	75	19	3
Computer systems analysts I	245	40.0	666.50	679.50	614.50– 714.50	–	–	–	–	–	–	–	6	17	27	31	42	65	38	17	2	–	–	–	–	–
Manufacturing	118	40.0	675.00	686.50	619.50– 730.00	–	–	–	–	–	–	–	4	8	13	10	20	26	21	15	1	–	–	–	–	–
Nonmanufacturing	127	40.0	658.50	672.50	612.50– 701.00	–	–	–	–	–	–	–	2	9	14	21	22	39	17	2	1	–	–	–	–	–
Computer systems analysts II	574	40.0	760.00	774.00	672.00– 860.00	–	–	–	–	–	–	12	16	25	21	30	53	43	66	52	65	148	38	5	–	–
Manufacturing	202	40.0	769.50	778.50	719.00– 845.00	–	–	–	–	–	–	–	3	2	6	12	15	18	29	30	32	46	9	–	–	–
Nonmanufacturing	372	40.0	755.00	760.50	653.00– 874.50	–	–	–	–	–	–	12	13	23	15	18	38	25	37	22	33	102	29	5	–	–
Computer systems analysts III	413	40.0	897.00	921.50	807.00– 988.50	–	–	–	–	–	–	–	–	4	8	5	10	15	28	28	28	78	121	84	17	7
Manufacturing	121	40.0	893.50	907.00	805.00– 969.50	–	–	–	–	–	–	–	–	–	1	6	7	7	7	8	30	36	13	2	4
Nonmanufacturing	292	40.0	898.50	932.50	807.00– 995.00	–	–	–	–	–	–	–	–	4	8	4	4	8	21	21	20	48	85	51	15	3
Computer systems analysts IV	93	40.0	966.50	969.00	918.00–1011.50	–	–	–	–	–	–	–	–	–	–	–	–	–	–	5	20	35	26	7	–	
Computer programmers	487	40.0	658.00	660.00	576.00– 749.00	–	–	–	–	6	19	15	24	39	43	64	67	54	43	48	39	21	5	–	–	–
Nonmanufacturing	293	40.0	656.00	657.00	600.00– 724.00	–	–	–	–	2	5	11	15	15	23	54	51	42	24	24	19	5	3	–	–	–
Computer programmers II	168	40.0	579.50	587.50	518.50– 657.00	–	–	–	–	–	12	11	20	25	25	22	42	9	2	–	–	–	–	–	–	–
Nonmanufacturing	97	40.0	600.00	633.50	549.00– 660.00	–	–	–	–	–	2	7	11	9	14	13	34	6	1	–	–	–	–	–	–	–
Computer programmers III	226	40.0	702.50	697.00	628.00– 767.00	–	–	–	–	–	–	–	–	10	11	38	25	45	33	32	21	7	3	–	–	–
Manufacturing	57	40.0	678.00	691.00	576.00– 749.00	–	–	–	–	–	–	–	–	8	9	1	8	9	10	8	2	2	–	–	–	–
Nonmanufacturing	169	40.0	710.50	697.00	640.00– 768.00	–	–	–	–	–	–	–	–	2	2	38	17	36	23	24	19	5	3	–	–	–
Computer operators	706	40.0	420.00	416.00	357.00– 483.00	2	30	58	91	128	108	101	87	64	24	7	6	–	–	–	–	–	–	–	–	–
Manufacturing	173	40.0	442.00	440.00	396.00– 489.00	–	5	5	14	28	36	29	27	13	10	5	1	–	–	–	–	–	–	–	–	–
Nonmanufacturing	533	40.0	413.00	404.00	346.50– 478.00	2	25	53	77	100	72	72	60	51	14	2	5	–	–	–	–	–	–	–	–	–
Transportation and utilities	47	40.0	494.00	544.00	441.50– 544.00	–	–	6	2	2	1	3	5	24	–	–	4	–	–	–	–	–	–	–	–	–
Computer operators I	67	39.0	320.50	301.50	271.00– 361.00	2	21	16	11	9	3	4	1	–	–	–	–	–	–	–	–	–	–	–	–	–
Nonmanufacturing	50	39.0	321.50	298.00	273.00– 369.50	2	16	15	3	6	3	4	1	–	–	–	–	–	–	–	–	–	–	–	–	–
Computer operators II	341	40.0	392.50	391.00	345.00– 431.00	–	9	41	70	79	64	33	18	25	2	–	–	–	–	–	–	–	–	–	–	–
Manufacturing	76	40.0	415.50	415.50	384.00– 443.00	–	–	4	6	18	25	13	9	1	–	–	–	–	–	–	–	–	–	–	–	–
Nonmanufacturing	265	40.0	385.50	371.50	331.50– 420.00	–	9	37	64	61	39	20	9	24	2	–	–	–	–	–	–	–	–	–	–	–
Computer operators III	265	40.0	467.50	461.00	420.00– 512.50	–	–	1	10	38	39	62	61	33	13	2	6	–	–	–	–	–	–	–	–	–
Manufacturing	63	40.0	480.50	469.00	430.50– 527.00	–	–	–	–	7	11	15	12	10	6	1	1	–	–	–	–	–	–	–	–	–
Nonmanufacturing	202	40.0	463.00	456.50	419.00– 512.50	–	–	1	10	31	28	47	49	23	7	1	5	–	–	–	–	–	–	–	–	–
Drafters	283	40.0	535.00	546.00	458.00– 609.00	–	–	–	20	35	15	9	24	46	48	40	25	8	5	9	1	–	–	–	–	–
Manufacturing	186	40.0	535.50	553.50	411.00– 638.50	–	–	–	20	25	9	9	12	21	23	21	25	6	5	9	1	–	–	–	–	–
Nonmanufacturing	97	40.0	534.00	546.00	508.00– 596.00	–	–	–	–	10	6	–	12	25	25	19	–	–	–	–	–	–	–	–	–	–
Drafters III	78	40.0	400.00	375.00	340.00– 420.00	–	–	–	20	30	14	1	4	8	1	–	–	–	–	–	–	–	–	–	–	–
Drafters IV	96	40.0	550.00	539.50	508.00– 580.00	–	–	–	–	–	1	8	20	25	25	9	6	2	–	–	–	–	–	–	–	–
Manufacturing	65	40.0	559.50	564.00	501.00– 600.00	–	–	–	–	–	1	8	8	13	18	9	6	2	–	–	–	–	–	–	–	–
Drafters V	104	40.0	630.00	618.50	594.50– 649.00	–	–	–	–	–	–	–	–	13	22	31	19	4	5	9	1	–	–	–	–	–
Electronics technicians	1,004	40.0	527.50	523.50	465.50– 595.00	–	–	12	12	72	86	134	61	232	213	128	33	6	4	3	8	–	–	–	–	–
Manufacturing	264	40.0	519.50	517.50	437.50– 616.00	–	–	12	12	22	27	38	25	37	20	20	31	6	4	2	8	–	–	–	–	–
Nonmanufacturing	740	40.0	530.50	554.50	467.00– 595.00	–	–	–	–	50	59	96	36	195	193	108	2	–	–	1	–	–	–	–	–	–

See footnotes at end of tables.

Table A-2. Weekly earnings of professional and technical workers in Phoenix, AZ, June 1990 —Continued

Occupation and industry division	Number of workers	Average weekly hours[1] (standard)	Weekly earnings (in dollars)[2]			Number of workers receiving straight-time weekly earnings (in dollars) of —																			
			Mean[3]	Median[3]	Middle range[4]	200 and under 240	240 – 280	280 – 320	320 – 360	360 – 400	400 – 440	440 – 480	480 – 520	520 – 560	560 – 600	600 – 640	640 – 680	680 – 720	720 – 760	760 – 800	800 – 840	840 – 920	920 – 1000	1000 – 1080	1080 – 1160	1160 – 1240
Electronics technicians I	55	40.0	368.00	374.00	320.00– 419.00	–	–	12	10	19	8	5	1	–	–	–	–	–	–	–	–	–	–	–	–	–
Manufacturing	53	40.0	366.00	373.50	320.00– 393.00	–	–	12	10	19	6	5	1	–	–	–	–	–	–	–	–	–	–	–	–	–
Electronics technicians II	617	40.0	522.50	520.00	465.50– 595.00	–	–	–	2	53	78	119	56	41	149	106	2	1	–	2	8	–	–	–	–	–
Manufacturing	128	40.0	515.00	496.00	447.00– 549.50	–	–	–	2	3	21	27	22	32	10	–	–	1	–	2	8	–	–	–	–	–
Nonmanufacturing	489	40.0	524.50	592.50	465.50– 595.00	–	–	–	–	50	57	92	34	9	139	106	2	–	–	–	–	–	–	–	–	–
Transportation and utilities	443	40.0	527.00	595.00	465.50– 595.00	–	–	–	–	50	53	85	6	2	139	106	2	–	–	–	–	–	–	–	–	–
Electronics technicians III:																									
Manufacturing	83	40.0	624.50	637.00	593.00– 678.00	–	–	–	–	–	–	6	2	5	10	20	31	5	4	–	–	–	–	–	–	–

See footnotes at end of tables.

Table A-3. Average weekly earnings of office, professional, and technical workers, by sex, in Phoenix, AZ, June 1990

Sex,[4] occupation, and industry division	Number of workers	Average (mean[2])	
		Weekly hours[1] (standard)	Weekly earnings (in dollars)[3]
Office occupations - men			
Key entry operators	65	39.5	270.50
Nonmanufacturing	65	39.5	270.50
Office occupations - women			
Secretaries	3,425	40.0	420.00
Manufacturing	1,082	40.0	447.50
Nonmanufacturing	2,343	40.0	407.50
Secretaries I	329	40.0	335.00
Nonmanufacturing	277	40.0	327.00
Secretaries II	932	40.0	366.50
Manufacturing	260	40.0	385.50
Nonmanufacturing	672	40.0	359.50
Secretaries III	1,313	40.0	433.50
Manufacturing	466	40.0	443.50
Nonmanufacturing	847	40.0	428.50
Secretaries IV	737	40.0	480.00
Manufacturing	266	40.0	511.00
Nonmanufacturing	471	40.0	463.00
Secretaries V	114	40.0	560.00
Nonmanufacturing	76	40.0	553.00
Typists	75	39.5	308.00
Nonmanufacturing	75	39.5	308.00
Typists I	75	39.5	308.00
Nonmanufacturing	75	39.5	308.00
Word processors	384	39.5	353.50
Manufacturing	53	40.0	375.50
Nonmanufacturing	331	39.5	350.00
Word processors I	189	40.0	312.00
Nonmanufacturing	175	40.0	310.00
Word processors II	195	39.0	394.00
Nonmanufacturing	156	39.0	395.00
Key entry operators	1,059	39.5	300.50
Manufacturing	228	40.0	308.00
Nonmanufacturing	831	39.5	298.50
Transportation and utilities	31	40.0	369.00
Key entry operators I	687	39.5	286.50
Manufacturing	57	40.0	281.50
Nonmanufacturing	630	39.5	287.00
Key entry operators II	372	40.0	326.00
Nonmanufacturing	201	40.0	334.00
Accounting clerks	2,845	40.0	330.00
Manufacturing	500	40.0	387.00
Nonmanufacturing	2,345	40.0	317.50
Accounting clerks I	209	40.0	259.50
Nonmanufacturing	206	40.0	258.50
Accounting clerks II	1,583	40.0	308.00
Manufacturing	247	40.0	347.00
Nonmanufacturing	1,336	40.0	301.00
Accounting clerks III	671	40.0	360.00
Manufacturing	147	40.0	392.50
Nonmanufacturing	524	39.5	350.50
Accounting clerks IV	382	40.0	405.50
Manufacturing	103	40.0	476.00
Nonmanufacturing	279	40.0	379.50
Payroll clerks	272	40.0	373.50
Manufacturing	90	40.0	398.50
Nonmanufacturing	182	40.0	361.50
File clerks	135	39.5	262.50
Nonmanufacturing	129	39.5	260.00
File clerks I	57	40.0	231.50
Nonmanufacturing	55	40.0	229.00
File clerks II	78	39.0	285.00
Nonmanufacturing	74	39.0	283.00
Order clerks	184	40.0	296.00
Manufacturing	89	40.0	287.50
Order clerks I	105	40.0	273.50
Receptionists	69	40.0	255.00
Nonmanufacturing	59	40.0	244.00
Switchboard operators	219	40.0	242.00
Nonmanufacturing	201	40.0	233.00
Switchboard operator-receptionists	771	39.5	276.00
Manufacturing	174	40.0	262.00
Nonmanufacturing	597	39.5	280.50
Transportation and utilities	29	40.0	290.50
Professional and technical occupations - men			
Computer systems analysts	792	40.0	833.50
Manufacturing	321	40.0	808.50
Computer systems analysts I	136	40.0	684.00
Manufacturing	72	40.0	692.50
Nonmanufacturing	64	40.0	675.00
Computer systems analysts II:			
Manufacturing	131	40.0	779.00
Computer systems analysts III	277	40.0	915.00
Manufacturing	96	40.0	902.00
Nonmanufacturing	181	40.0	922.00
Computer programmers	269	40.0	667.50
Computer programmers II	106	40.0	589.50
Nonmanufacturing	69	40.0	607.00
Computer operators:			
Manufacturing	51	40.0	478.00
Computer operators III	148	40.0	486.50
Nonmanufacturing	123	40.0	456.50
Drafters	223	40.0	549.00
Manufacturing	150	40.0	547.50
Nonmanufacturing	73	40.0	551.50
Drafters III	50	40.0	395.00
Drafters IV	86	40.0	551.50
Manufacturing	56	40.0	564.00
Drafters V	84	40.0	644.00
Electronics technicians:			
Manufacturing	195	40.0	543.50
Electronics technicians II:			
Manufacturing	107	40.0	522.50
Electronics technicians III:			
Manufacturing	66	40.0	640.00
Professional and technical occupations - women			
Computer systems analysts:			
Manufacturing	135	40.0	733.00
Computer systems analysts I	98	40.0	652.50
Computer systems analysts II:			
Manufacturing	66	40.0	750.50
Computer programmers:			
Computer programmers II	60	40.0	564.00
Computer operators:			
Manufacturing	114	40.0	427.00
Computer operators II:			
Manufacturing	57	40.0	414.50
Computer operators III	103	40.0	458.00
Nonmanufacturing	68	40.0	458.00
Drafters	60	40.0	483.00

See footnotes at end of tables.

Table A-4. Hourly earnings of maintenance, toolroom, and powerplant workers in Phoenix, AZ, June 1990

Occupation and industry division	Number of workers	Hourly earnings (in dollars)[1]			Number of workers receiving straight-time hourly earnings (in dollars) of —																					
		Mean[2]	Median[2]	Middle range[2]	5.00 and under 5.50	5.50 – 6.00	6.00 – 6.50	6.50 – 7.00	7.00 – 7.50	7.50 – 8.00	8.00 – 8.50	8.50 – 9.00	9.00 – 9.50	9.50 – 10.00	10.00 – 10.50	10.50 – 11.00	11.00 – 11.50	11.50 – 12.00	12.00 – 12.50	12.50 – 13.00	13.00 – 14.00	14.00 – 15.00	15.00 – 16.00	16.00 – 17.00	17.00 – 18.00	18.00 – 19.00	19.00 – 20.00
Maintenance electricians	228	16.29	16.20	14.35–19.74	–	–	–	–	–	–	–	–	–	–	9	3	11	2	12	8	7	28	13	32	–	34	69
Manufacturing	146	14.97	15.20	12.98–16.43	–	–	–	–	–	–	–	–	–	–	6	3	11	2	10	5	6	26	11	32	–	34	–
Maintenance machinists	52	16.59	17.95	14.35–17.95	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	4	–	12	2	1	30	–	3
Maintenance mechanics (machinery)	374	12.91	12.62	11.25–14.35	–	–	–	–	–	–	–	–	–	–	–	–	117	31	4	91	32	42	19	34	2	2	–
Manufacturing	337	12.97	12.62	11.25–14.35	–	–	–	–	–	–	–	–	–	–	–	–	117	13	4	91	14	42	19	34	1	2	–
Motor vehicle mechanics	986	13.66	13.14	12.50–14.55	–	–	–	–	–	–	–	–	38	4	6	14	26	23	93	274	227	54	108	35	12	–	72
Manufacturing	205	12.50	12.47	12.35–13.32	–	–	–	–	–	–	–	–	–	4	6	8	8	18	86	15	57	3	–	–	–	–	–
Nonmanufacturing	781	13.96	13.25	12.50–15.44	–	–	–	–	–	–	–	–	38	–	–	6	18	5	7	259	170	51	108	35	12	–	72
Transportation and utilities	389	15.42	15.44	13.49–16.48	–	–	–	–	–	–	–	–	2	–	–	4	14	4	7	40	55	38	106	35	12	–	72
General maintenance workers	631	8.07	7.35	6.75– 9.00	4	2	76	116	119	56	47	40	57	5	16	28	23	21	8	5	4	4	–	–	–	–	–
Manufacturing	192	9.43	9.01	8.70–10.81	–	–	12	3	19	–	12	40	35	3	8	26	12	8	4	2	4	4	–	–	–	–	–
Nonmanufacturing	439	7.48	7.00	6.71– 7.72	4	2	64	113	100	56	35	–	22	2	8	2	11	13	4	3	–	–	–	–	–	–	–

See footnotes at end of tables.

Table A-5. Hourly earnings of material movement and custodial workers in Phoenix, AZ, June 1990

Occupation and industry division	Number of workers	Hourly earnings (in dollars)[3]			Number of workers receiving straight-time hourly earnings (in dollars) of —																					
		Mean[3]	Median[3]	Middle range[3]	3.80 and under 4.00	4.00 – 4.50	4.50 – 5.00	5.00 – 5.50	5.50 – 6.00	6.00 – 6.50	6.50 – 7.00	7.00 – 7.50	7.50 – 8.00	8.00 – 8.50	8.50 – 9.00	9.00 – 9.50	9.50 – 10.00	10.00 – 10.50	10.50 – 11.00	11.00 – 11.50	11.50 – 12.00	12.00 – 13.00	13.00 – 14.00	14.00 – 15.00	15.00 – 16.00	16.00 – 17.00	17.00 – 18.00
Truckdrivers	5,314	11.10	11.20	8.58–13.63	-	-	18	60	131	193	382	186	132	147	185	105	53	540	391	526	272	183	799	136	802	70	3
Manufacturing	1,070	10.52	10.50	10.19–11.90	-	-	-	-	38	2	30	1	35	21	20	7	12	348	200	35	125	177	17	2	-	-	-
Nonmanufacturing	4,244	11.25	11.20	8.00–13.80	-	-	18	60	93	191	352	185	97	126	165	98	41	192	191	491	147	6	782	134	802	70	3
Transportation and utilities	1,447	13.44	15.40	13.80–15.77	-	-	-	60	45	49	16	12	12	53	11	12	10	72	-	-	-	-	207	13	802	70	3
Truckdrivers, light truck	647	7.04	6.49	5.79– 8.05	-	-	18	60	106	147	48	54	43	37	56	6	27	1	35	-	6	2	1	-	-	-	-
Manufacturing	171	8.41	8.05	7.50–10.60	-	-	-	-	38	2	1	1	25	21	20	6	12	1	35	-	6	2	1	-	-	-	-
Nonmanufacturing	476	6.55	6.48	5.79– 7.14	-	-	18	60	68	145	47	53	18	16	36	-	15	-	-	-	-	-	-	-	-	-	-
Truckdrivers, medium truck: Manufacturing	71	8.98	7.96	6.54–10.70	-	-	-	-	-	-	29	-	10	-	-	1	-	1	20	1	-	1	8	-	-	-	-
Truckdrivers, heavy truck	1,412	9.25	10.19	7.00–10.81	-	-	-	-	21	18	277	104	36	36	79	-	-	317	324	52	104	35	-	9	-	-	-
Manufacturing	625	10.68	10.19	10.19–11.15	-	-	-	-	-	-	-	-	-	-	-	-	-	317	135	34	104	35	-	-	-	-	-
Nonmanufacturing	787	8.12	7.10	6.50–10.81	-	-	-	-	21	18	277	104	36	36	79	-	-	-	189	18	-	-	-	9	-	-	-
Truckdrivers, tractor-trailer	2,631	12.74	13.27	11.20–13.85	-	-	-	-	-	-	-	-	15	66	22	86	26	193	12	473	162	145	790	127	441	70	3
Nonmanufacturing	2,456	12.75	13.27	11.20–14.00	-	-	-	-	-	-	-	-	15	66	22	86	26	192	2	473	147	6	782	125	441	70	3
Transportation and utilities	852	14.30	15.40	13.80–15.75	-	-	-	-	-	-	-	-	-	45	-	-	10	72	-	-	-	-	207	4	441	70	3
Receivers	134	8.18	7.70	6.45– 9.20	-	-	-	11	1	23	22	7	20	-	-	22	1	-	-	19	-	8	-	-	-	-	-
Nonmanufacturing	104	8.45	7.42	6.78–11.45	-	-	-	11	1	13	22	7	-	-	-	22	1	-	-	19	-	8	-	-	-	-	-
Shippers and receivers	85	8.93	8.60	7.90–10.10	-	-	-	-	-	7	-	-	20	2	25	3	6	6	10	1	5	-	-	-	-	-	-
Manufacturing	81	8.89	8.60	7.90– 9.93	-	-	-	-	-	6	-	-	20	2	25	3	6	5	9	1	4	-	-	-	-	-	-
Warehousemen	2,272	10.24	10.81	7.50–13.65	-	99	55	56	108	110	79	39	76	119	56	73	125	76	153	211	18	6	806	3	-	4	-
Manufacturing	146	9.14	9.72	8.31–10.16	-	-	-	-	-	20	-	2	10	13	8	10	20	42	21	-	-	-	-	-	-	-	-
Nonmanufacturing	2,126	10.31	10.81	7.50–13.65	-	99	55	56	108	90	79	37	66	106	48	63	105	34	132	211	18	6	806	3	-	4	-
Transportation and utilities	58	8.56	6.98	6.01–10.58	-	-	-	6	6	14	4	-	4	-	-	-	2	6	8	-	-	1	-	3	-	4	-
Material handling laborers	389	8.47	7.65	5.50–10.20	-	-	3	87	87	2	1	3	24	3	26	28	18	40	-	2	-	-	5	8	52	-	-
Manufacturing	52	9.15	8.84	8.84– 9.50	-	-	-	-	-	-	-	3	3	-	23	1	18	1	-	1	-	-	2	-	-	-	-
Nonmanufacturing	337	8.37	5.88	5.33–10.20	-	-	3	87	87	2	1	-	21	3	3	27	-	39	-	1	-	-	3	8	52	-	-
Transportation and utilities	90	13.49	15.40	9.12–15.75	-	-	-	-	-	-	-	-	-	-	-	27	-	-	-	-	-	-	3	8	52	-	-
Forklift operators	472	8.69	8.93	8.38– 9.65	-	-	24	15	6	6	7	25	3	74	83	67	98	35	2	24	-	3	-	-	-	-	-
Manufacturing	333	8.34	8.87	8.15– 9.19	-	-	24	15	6	6	-	18	3	74	83	32	35	35	2	-	-	-	-	-	-	-	-
Guards	3,158	5.82	5.25	4.65– 6.25	48	269	882	833	122	269	92	96	30	90	168	124	60	14	31	24	3	3	-	-	-	-	-
Manufacturing	233	9.06	9.01	8.22–10.60	-	-	-	-	2	3	20	21	8	24	38	35	9	12	31	24	3	3	-	-	-	-	-
Nonmanufacturing	2,925	5.56	5.00	4.60– 6.00	48	269	882	833	120	266	72	75	22	66	130	89	51	2	-	-	-	-	-	-	-	-	-
Guards I	3,086	5.72	5.13	4.60– 6.25	48	269	882	833	122	268	90	96	24	89	154	118	58	11	10	14	-	-	-	-	-	-	-
Manufacturing	164	8.65	8.73	7.28– 9.45	-	-	-	-	2	3	20	21	2	23	24	29	7	9	10	14	-	-	-	-	-	-	-
Nonmanufacturing	2,922	5.56	5.00	4.60– 6.00	48	269	882	833	120	265	70	75	22	66	130	89	51	2	-	-	-	-	-	-	-	-	-
Janitors, porters, and cleaners	2,383	4.88	4.50	3.85– 5.25	679	507	301	334	181	70	60	93	33	31	37	7	1	48	-	-	1	-	-	-	-	-	-
Manufacturing	268	7.65	7.29	6.50– 8.87	3	-	15	8	6	25	39	44	19	15	37	7	1	48	-	-	1	-	-	-	-	-	-
Nonmanufacturing	2,115	4.53	4.10	3.80– 5.00	676	507	286	326	175	45	21	49	14	16	-	-	-	-	-	-	-	-	-	-	-	-	-

See footnotes at end of tables.

Table A-6. Average hourly earnings of maintenance, toolroom, powerplant, material movement, and custodial workers, by sex, in Phoenix, AZ, June 1990

Sex,[a] occupation, and industry division	Number of workers	Average (mean[b]) hourly earnings (in dollars)[c]
Maintenance, toolroom, and powerplant occupations - men		
Maintenance electricians	225	16.30
Manufacturing	143	14.96
Maintenance machinists	52	16.59
Maintenance mechanics (machinery)	374	12.91
Manufacturing	337	12.97
Motor vehicle mechanics	978	13.64
Manufacturing	205	12.50
Nonmanufacturing	773	13.95
Transportation and utilities	381	15.42
General maintenance workers	627	8.08
Manufacturing	189	9.47
Nonmanufacturing	438	7.48
Material movement and custodial occupations - men		
Truckdrivers	4,784	10.68
Manufacturing	1,050	10.55
Nonmanufacturing	3,734	10.71
Truckdrivers, light truck	617	6.98
Manufacturing	151	8.35
Nonmanufacturing	466	6.53
Truckdrivers, medium truck:		
Manufacturing	71	8.98
Truckdrivers, heavy truck	1,411	9.25
Manufacturing	625	10.68
Nonmanufacturing	786	8.11
Truckdrivers, tractor-trailer	2,493	12.67
Nonmanufacturing	2,318	12.67
Transportation and utilities	769	14.11
Warehousemen:		
Manufacturing	94	8.91
Material handling laborers	389	8.47
Manufacturing	52	9.15
Nonmanufacturing	337	8.37
Transportation and utilities	90	13.49
Forklift operators	362	8.53
Manufacturing	223	7.91
Guards	2,424	5.87
Nonmanufacturing	2,260	5.61
Guards I	2,359	5.76
Nonmanufacturing	2,257	5.61
Janitors, porters, and cleaners:		
Manufacturing	208	7.69
Material movement and custodial occupations - women		
Warehousemen:		
Manufacturing	52	9.56
Janitors, porters, and cleaners:		
Manufacturing	60	7.51

See footnotes at end of tables.

Table A-7. Indexes of earnings and percent increases for selected occupational groups, Phoenix, AZ, selected periods

Period[b]	All industries					Manufacturing					Nonmanufacturing			
	Office clerical	Electronic data processing	Industrial nurses	Skilled maintenance	Unskilled plant	Office clerical	Electronic data processing	Industrial nurses	Skilled maintenance	Unskilled plant	Office clerical	Electronic data processing	Industrial nurses	Unskilled plant
Indexes:[a]														
Percent increases:														
June 1987 to June 1988	3.3	2.9	(*)	2.1	.9	(*)	2.6	(*)	1.7	(*)	3.5	3.1	(*)	.8
June 1988 to June 1989	4.6	4.2	(*)	.6	6.0	(*)	4.7	(*)	.5	2.3	4.3	3.8	(*)	6.7
June 1989 to June 1990	4.4	5.1	(*)	1.8	3.5	(*)	3.0	(*)	1.7	4.0	4.3	6.0	(*)	3.4

See footnotes at end of tables.

Table A-8. Pay relationships in establishments with paired office clerical occupations, Phoenix, AZ, June 1990

Occupation for which earnings are compared	Occupation for which average earnings equal 100																				
	Secretaries					Typists	Word processors		Key entry operators		Accounting clerks				Payroll clerks	File clerks		Order clerks	Receptionists	Switchboard operators	Switchboard operator-receptionists
	I	II	III	IV	V	I	I	II	I	II	I	II	III	IV		I	II	I			
Secretaries I	**100**	89	81	70	62	(*)	106	86	121	90	(*)	114	96	90	91	(*)	(*)	(*)	121	119	124
Secretaries II	112	**100**	85	78	64	129	122	97	130	111	132	115	96	84	96	(*)	(*)	(*)	138	133	128
Secretaries III	124	117	**100**	88	73	168	141	112	151	125	154	127	112	97	112	168	139	(*)	141	135	152
Secretaries IV	143	128	114	**100**	81	174	155	122	180	144	171	142	122	108	124	196	164	(*)	171	161	151
Secretaries V	161	155	137	123	**100**	208	187	147	(*)	169	219	171	150	132	148	250	(*)	(*)	222	198	177
Typists I	(*)	78	60	58	48	**100**	87	80	(*)	(*)	(*)	88	72	(*)	68	(*)	118	(*)	(*)	120	104
Word processors I	94	82	71	64	54	115	**100**	75	99	82	122	101	83	71	84	141	125	(*)	121	120	112
Word processors II	117	103	89	82	68	126	133	**100**	156	115	149	120	107	98	113	187	138	(*)	146	166	132
Key entry operators I	83	77	66	56	(*)	(*)	101	64	**100**	77	109	95	82	(*)	76	153	(*)	107	(*)	106	105
Key entry operators II	111	90	80	69	59	(*)	122	87	131	**100**	125	99	90	76	87	195	(*)	(*)	139	120	118
Accounting clerks I	(*)	76	65	58	46	(*)	82	67	92	80	**100**	82	69	61	78	117	103	(*)	(*)	92	94
Accounting clerks II	87	87	79	71	58	113	99	84	106	101	122	**100**	85	73	85	142	124	106	126	127	109
Accounting clerks III	105	105	89	82	67	139	120	93	122	111	144	117	**100**	87	99	(*)	(*)	(*)	151	140	122
Accounting clerks IV	112	119	103	93	76	(*)	141	102	(*)	131	165	136	115	**100**	115	(*)	(*)	(*)	155	150	130
Payroll clerks	110	104	89	81	68	147	118	89	131	115	129	117	101	87	**100**	188	128	(*)	154	137	134
File clerks I	(*)	(*)	60	51	40	(*)	71	53	65	51	85	70	(*)	(*)	53	**100**	(*)	(*)	(*)	81	81
File clerks II	(*)	(*)	72	61	(*)	85	80	72	(*)	(*)	97	81	(*)	(*)	78	(*)	**100**	(*)	98	97	(*)
Order clerks I	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	93	(*)	(*)	95	(*)	(*)	(*)	(*)	(*)	**100**	(*)	(*)	104
Receptionists	83	72	71	58	45	(*)	83	69	(*)	72	(*)	79	66	65	65	(*)	102	(*)	**100**	98	(*)
Switchboard operators	84	75	74	62	51	83	83	60	94	83	108	79	71	67	73	124	103	(*)	102	**100**	(*)
Switchboard operator-receptionists	81	78	66	66	57	96	90	76	95	85	106	92	82	77	75	124	(*)	97	(*)	(*)	**100**

NOTE: This matrix table shows the average (mean) relationship of earnings in establishments between any two occupations compared. Earnings for an occupation in the table stub are expressed as a percent of the earnings for an occupation in the column heading at the point where the data lines for the two intersect. For example, reading across the Secretaries II row, the 112 in the Secretaries I column indicates that Secretaries II average 112 percent of (or 12 percent more than) the earnings of Secretaries I.

See appendix A for method of computation.

Also see footnotes at end of tables.

Table A-9. Pay relationships in establishments with paired professional and technical occupations, Phoenix, AZ, June 1990

Occupation for which earnings are compared	Occupation for which average earnings equal 100													
	Computer systems analysts				Computer programmers		Computer operators			Drafters			Electronics technicians	
	I	II	III	IV	II	III	I	II	III	III	IV	V	I	II
Computer systems analysts I	**100**	85	73	68	121	100	190	165	138	138	124	104	160	(*)
Computer systems analysts II	118	**100**	84	74	141	117	195	191	167	158	145	123	184	149
Computer systems analysts III	136	119	**100**	86	167	141	230	224	192	188	172	142	222	178
Computer systems analysts IV	146	134	117	**100**	187	(*)	293	246	192	(*)	(*)	(*)	(*)	211
Computer programmers II	82	71	60	54	**100**	81	148	142	122	121	108	(*)	133	120
Computer programmers III	100	86	71	(*)	124	**100**	158	189	164	(*)	(*)	(*)	(*)	134
Computer operators I	53	51	43	34	67	63	**100**	85	73	75	(*)	(*)	(*)	(*)
Computer operators II	61	52	45	41	71	53	117	**100**	84	92	75	62	107	(*)
Computer operators III	73	60	52	52	82	61	138	119	**100**	102	89	73	116	(*)
Drafters III	73	63	53	(*)	83	(*)	133	109	98	**100**	81	69	(*)	101
Drafters IV	80	69	58	(*)	92	(*)	(*)	133	112	123	**100**	86	(*)	(*)
Drafters V	96	82	70	(*)	(*)	(*)	(*)	161	136	146	117	**100**	(*)	(*)
Electronics technicians I	63	54	45	(*)	75	(*)	(*)	93	86	(*)	(*)	(*)	**100**	76
Electronics technicians II	(*)	67	56	47	83	74	(*)	(*)	(*)	99	(*)	(*)	132	**100**

See table A-8 for description of these pay relationships and appendix A for method of computation.

Also see footnotes at end of tables.

Table A-10. Pay relationships in establishments with paired maintenance, toolroom, and powerplant occupations, Phoenix, AZ, June 1990

Occupation for which earnings are compared	Occupation for which average earnings equal 100				
	Electricians	Machinists	Maintenance mechanics (machinery)	Motor vehicle mechanics	Maintenance workers (general)
Maintenance electricians	**100**	97	100	104	125
Maintenance machinists	103	**100**	109	(*)	(*)
Maintenance mechanics (machinery)	100	91	**100**	100	119
Motor vehicle mechanics	96	(*)	100	**100**	122
General maintenance workers	80	(*)	84	82	**100**

See table A-8 for description of these pay relationships and appendix A for method of computation.
Also see footnotes at end of tables.

Table A-11. Pay relationships in establishments with paired material movement and custodial occupations, Phoenix, AZ, June 1990

Occupation for which earnings are compared	Occupation for which average earnings equal 100									
	Truckdrivers			Receivers	Shippers and receivers	Warehousemen	Material handling laborers	Forklift operators	Guards	Janitors, porters, and cleaners
	Light truck	Heavy truck	Tractor-trailer						I	
Truckdrivers, light truck	**100**	(*)	63	(*)	(*)	104	100	97	102	(*)
Truckdrivers, heavy truck	(*)	**100**	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)
Truckdrivers, tractor-trailer	159	(*)	**100**	(*)	(*)	106	127	105	(*)	162
Receivers	(*)	(*)	(*)	**100**	(*)	99	(*)	(*)	(*)	116
Shippers and receivers	(*)	(*)	(*)	(*)	**100**	115	(*)	(*)	115	114
Warehousemen	96	(*)	94	102	87	**100**	(*)	(*)	154	125
Material handling laborers	100	(*)	79	(*)	(*)	(*)	**100**	(*)	83	86
Forklift operators	103	(*)	95	(*)	(*)	(*)	(*)	**100**	(*)	(*)
Guards I	98	(*)	(*)	(*)	87	65	120	(*)	**100**	115
Janitors, porters, and cleaners	(*)	(*)	62	86	88	80	116	(*)	87	**100**

See table A-8 for description of these pay relationships and appendix A for method of computation.
Also see footnotes at end of tables.

Table A-12. Weekly earnings of office workers in establishments employing 500 workers or more in Phoenix, AZ, June 1990

Occupation and industry division	Number of workers	Average weekly hours[1] (standard)	Weekly earnings (in dollars)[2]			Number of workers receiving straight-time weekly earnings (in dollars) of —																				
			Mean[3]	Median[3]	Middle range[3]	180 and under 200	200 – 220	220 – 240	240 – 260	260 – 280	280 – 300	300 – 320	320 – 340	340 – 360	360 – 380	380 – 400	400 – 420	420 – 440	440 – 460	460 – 480	480 – 500	500 – 540	540 – 580	580 – 620	620 – 660	660 and over
Secretarial and keyboarding occupations																										
Secretaries	2,671	40.0	421.50	418.00	385.00– 478.00	–	2	2	9	61	84	80	179	201	281	217	253	235	231	224	166	234	122	54	23	13
Manufacturing	929	40.0	457.00	452.00	408.00– 495.00	–	–	–	–	–	–	3	12	25	55	97	105	105	110	129	71	92	82	25	10	8
Nonmanufacturing	1,742	40.0	402.50	391.00	343.00– 456.00	–	2	2	9	61	84	77	167	176	226	120	148	130	121	95	95	142	40	29	13	5
Secretaries I	238	40.0	340.50	335.50	301.50– 372.50	–	2	2	8	11	30	30	53	30	22	19	14	5	4	2	–	6	–	–	–	–
Nonmanufacturing	197	40.0	330.50	329.00	296.50– 352.00	–	2	2	8	11	30	30	47	25	16	10	9	–	–	1	–	6	–	–	–	–
Secretaries II	722	40.0	366.00	370.00	333.00– 401.50	–	–	–	1	48	47	30	75	107	121	106	82	52	33	14	2	4	–	–	–	–
Manufacturing	210	40.0	395.50	392.50	371.00– 414.50	–	–	–	–	–	–	3	6	14	40	67	35	25	8	6	2	4	–	–	–	–
Nonmanufacturing	512	40.0	354.00	351.00	321.50– 384.00	–	–	–	1	48	47	27	69	93	81	39	47	27	25	8	–	–	–	–	–	–
Secretaries III	932	40.0	430.00	434.00	387.00– 476.00	–	–	–	–	2	7	20	50	48	87	67	109	119	122	121	71	83	15	8	3	–
Manufacturing	389	40.0	451.00	452.00	425.00– 478.00	–	–	–	–	–	–	–	–	5	9	18	53	62	75	94	40	26	6	1	–	–
Nonmanufacturing	543	40.0	415.00	405.50	362.50– 459.00	–	–	–	–	2	7	20	50	43	78	49	56	57	47	27	31	57	9	7	3	–
Transportation and utilities	84	40.0	485.00	477.50	441.00– 535.00	–	–	–	–	–	–	2	2	2	–	2	6	7	12	10	3	19	9	7	3	–
Secretaries IV	678	40.0	476.00	479.50	431.50– 518.00	–	–	–	–	–	–	–	1	16	51	25	47	56	68	81	87	126	92	20	8	–
Manufacturing	262	40.0	511.00	511.00	471.00– 553.50	–	–	–	–	–	–	–	–	1	–	3	11	13	23	27	29	61	70	18	6	–
Nonmanufacturing	416	40.0	454.00	458.00	410.00– 492.50	–	–	–	–	–	–	–	1	15	51	22	36	43	45	54	58	65	22	2	2	–
Secretaries V	101	40.0	569.00	583.00	513.00– 619.50	–	–	–	–	–	–	–	–	–	–	–	1	3	4	6	6	15	15	26	12	* 13
Nonmanufacturing	74	40.0	554.00	557.50	501.00– 601.00	–	–	–	–	–	–	–	–	–	–	–	–	3	4	5	6	14	9	20	8	5
Word processors	137	40.0	346.50	340.00	296.50– 377.00	–	–	–	5	7	27	12	17	21	15	9	3	5	9	2	2	3	–	–	–	–
Nonmanufacturing	102	40.0	333.50	325.00	285.00– 359.00	–	–	–	5	7	26	10	12	17	8	4	3	–	7	–	–	3	–	–	–	–
Word processors I	77	40.0	311.00	299.50	282.50– 330.00	–	–	–	5	7	27	11	11	7	3	3	–	–	3	–	–	–	–	–	–	–
Nonmanufacturing	63	40.0	305.00	290.50	282.00– 325.00	–	–	–	5	7	26	9	6	3	3	1	–	–	3	–	–	–	–	–	–	–
Word processors II	60	40.0	392.00	376.00	346.50– 424.00	–	–	–	–	–	–	1	6	14	12	6	3	5	6	2	2	3	–	–	–	–
Key entry operators	707	39.5	302.50	283.50	247.00– 348.50	–	1	116	133	84	103	41	39	43	34	35	14	25	11	16	8	4	–	–	–	–
Manufacturing	71	40.0	361.00	364.00	329.00– 385.00	–	–	–	3	2	2	6	7	13	15	9	3	7	2	2	–	–	–	–	–	–
Nonmanufacturing	636	39.5	296.00	275.00	245.00– 329.50	–	1	116	130	82	101	35	32	30	19	26	11	18	9	14	8	4	–	–	–	–
Key entry operators I	498	39.0	285.00	262.50	240.50– 309.50	–	1	116	123	67	54	27	26	16	11	18	7	13	9	9	1	–	–	–	–	–
Nonmanufacturing	486	39.0	284.50	261.50	240.50– 304.00	–	1	116	121	65	54	23	24	14	11	18	7	13	9	9	1	–	–	–	–	–
Key entry operators II	209	40.0	344.50	340.00	291.00– 383.00	–	–	–	10	17	49	14	13	27	23	17	7	12	2	7	7	4	–	–	–	–
Nonmanufacturing	150	40.0	333.50	300.00	285.50– 368.00	–	–	–	9	17	47	12	8	16	8	8	4	5	–	5	7	4	–	–	–	–
Other clerical occupations																										
Accounting clerks	1,502	40.0	350.50	331.00	291.00– 402.00	–	3	27	83	133	218	145	202	133	104	68	96	64	86	51	20	34	18	17	–	–
Manufacturing	310	40.0	413.00	401.50	356.00– 485.50	–	–	–	–	4	13	11	31	25	38	28	36	23	17	27	8	22	11	16	–	–
Nonmanufacturing	1,192	40.0	334.00	321.00	282.00– 370.00	–	3	27	83	129	205	134	171	108	66	40	60	41	69	24	12	12	7	1	–	–
Transportation and utilities	347	40.0	343.00	311.00	282.00– 408.50	–	–	–	16	32	86	52	48	11	5	6	8	6	56	6	5	8	2	–	–	–
Accounting clerks I	119	40.0	272.50	269.00	247.00– 298.00	–	3	23	29	9	27	3	24	1	–	–	–	–	–	–	–	–	–	–	–	–
Nonmanufacturing	114	40.0	270.00	263.00	247.00– 289.00	–	3	23	29	9	26	2	22	–	–	–	–	–	–	–	–	–	–	–	–	–
Accounting clerks II	728	40.0	322.50	305.50	280.00– 348.00	–	–	4	54	116	170	82	84	65	37	23	19	11	54	–	2	5	2	–	–	–
Manufacturing	111	40.0	357.00	341.00	320.00– 395.00	–	–	–	–	4	12	10	27	14	15	6	9	5	2	–	2	3	2	–	–	–
Nonmanufacturing	617	40.0	316.50	296.50	274.50– 340.00	–	–	4	54	112	158	72	57	51	22	17	10	6	52	–	–	2	–	–	–	–
Transportation and utilities	224	40.0	330.50	296.50	282.00– 358.50	–	–	–	12	32	84	25	5	10	2	1	–	–	51	–	–	2	–	–	–	–

See footnotes at end of tables.

Table A-12. Weekly earnings of office workers in establishments employing 500 workers or more in Phoenix, AZ, June 1990 —Continued

Occupation and industry division	Number of workers	Average weekly hours[1] (standard)	Weekly earnings (in dollars)[2]			Number of workers receiving straight-time weekly earnings (in dollars) of —																			
			Mean[3]	Median[3]	Middle range[3]	180 and under 200	200 – 220	220 – 240	240 – 260	260 – 280	280 – 300	300 – 320	320 – 340	340 – 360	360 – 380	380 – 400	400 – 420	420 – 440	440 – 460	460 – 480	480 – 500	500 – 540	540 – 580	580 – 620	620 – 660	660 and over
Accounting clerks III	392	40.0	366.50	354.50	323.50– 407.50	–	–	–	–	8	20	52	82	46	41	30	38	27	12	25	4	4	3	–	–	–
Manufacturing	95	40.0	408.50	397.00	375.00– 443.00	–	–	–	–	–	–	–	2	9	20	18	15	7	5	14	2	2	1	–	–	–
Nonmanufacturing	297	40.0	353.50	331.50	316.50– 385.00	–	–	–	–	8	20	52	80	37	21	12	23	20	7	11	2	2	2	–	–	–
Accounting clerks IV	263	40.0	437.50	428.00	379.00– 481.00	–	–	–	–	–	1	8	12	21	26	15	39	26	20	26	14	25	13	17	–	–
Manufacturing	99	40.0	484.50	477.00	428.00– 537.00	–	–	–	–	–	–	–	–	1	3	4	12	11	10	13	4	17	8	16	–	–
Payroll clerks	166	40.0	348.50	326.00	288.50– 384.00	–	–	–	–	28	16	24	25	13	17	3	11	3	9	9	2	5	1	–	–	–
Nonmanufacturing	137	40.0	337.00	321.00	285.50– 367.00	–	–	–	–	28	14	23	25	9	13	–	9	–	5	5	1	4	1	–	–	–
Transportation and utilities	27	40.0	368.00	326.00	306.50– 455.00	–	–	–	–	–	1	9	8	–	–	–	–	–	4	3	–	1	1	–	–	–
File clerks	58	40.0	243.00	224.50	209.50– 289.00	12	14	9	5	1	5	8	3	–	1	–	–	–	–	–	–	–	–	–	–	–
Nonmanufacturing	51	40.0	232.00	219.00	209.00– 255.50	12	14	9	5	1	5	2	3	–	–	–	–	–	–	–	–	–	–	–	–	–
Receptionists	69	40.0	254.50	243.00	229.50– 278.00	4	5	21	13	15	1	7	1	–	–	2	–	–	–	–	–	–	–	–	–	–
Nonmanufacturing	59	40.0	243.50	239.50	228.00– 265.00	4	5	21	13	14	–	2	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Switchboard operators	146	40.0	253.50	240.00	210.00– 280.00	–	54	15	35	5	7	9	2	10	7	1	–	1	–	–	–	–	–	–	–	–	–
Nonmanufacturing	128	40.0	241.00	237.50	210.00– 254.50	–	54	14	35	4	6	7	2	5	–	1	–	–	–	–	–	–	–	–	–	–	–
Switchboard operator-receptionists	94	40.0	287.50	294.50	236.00– 320.00	2	2	21	13	4	7	20	7	10	–	4	3	1	–	–	–	–	–	–	–	–	–
Nonmanufacturing	85	40.0	280.50	291.00	236.00– 300.00	2	2	21	13	4	7	18	5	8	–	4	1	–	–	–	–	–	–	–	–	–	–

* Workers were distributed as follows: 10 at 660 to 700; 1 at 700 to 740; 1 at 740 to 780; and 1 at 780 to 820.

Also see footnotes at end of tables.

Table A-13. Weekly earnings of professional and technical workers in establishments employing 500 workers or more in Phoenix, AZ, June 1990

Occupation and industry division	Number of workers	Average weekly hours[1] (standard)	Weekly earnings (in dollars)[2]			Number of workers receiving straight-time weekly earnings (in dollars) of —																			
			Mean[3]	Median[3]	Middle range[3]	200 and under 240	240 – 280	280 – 320	320 – 360	360 – 400	400 – 440	440 – 480	480 – 520	520 – 560	560 – 600	600 – 640	640 – 680	680 – 720	720 – 760	760 – 800	800 – 840	840 – 920	920 – 1000	1000 – 1080	1080 – 1160	1160 – 1240
Computer systems analysts	1,292	40.0	800.50	802.00	686.50– 917.50	–	–	–	–	–	–	12	22	46	53	65	100	118	128	97	95	244	189	92	24	7
Manufacturing	455	40.0	793.00	781.00	703.00– 878.00	–	–	–	–	–	–	–	7	10	16	22	36	47	57	52	46	80	53	20	5	4
Nonmanufacturing	837	40.0	804.50	819.50	681.50– 933.00	–	–	–	–	–	–	12	15	36	37	43	64	71	71	45	49	164	136	72	19	3
Computer systems analysts I	242	40.0	667.50	681.00	615.00– 714.50	–	–	–	–	–	–	–	6	17	24	31	42	65	38	17	2	–	–	–	–	–
Manufacturing	115	40.0	677.50	688.50	625.50– 736.50	–	–	–	–	–	–	–	4	8	10	10	20	26	21	15	1	–	–	–	–	–
Nonmanufacturing	127	40.0	658.50	672.50	612.50– 701.00	–	–	–	–	–	–	–	2	9	14	21	22	39	17	2	1	–	–	–	–	–
Computer systems analysts II	549	40.0	758.50	775.00	668.50– 858.50	–	–	–	–	–	–	12	16	25	21	29	48	38	62	52	65	146	33	2	–	–
Manufacturing	192	40.0	775.00	785.00	723.50– 846.00	–	–	–	–	–	–	–	3	2	6	11	10	14	29	30	32	46	9	–	–	–
Nonmanufacturing	357	40.0	749.50	760.50	651.00– 870.00	–	–	–	–	–	–	12	13	23	15	18	38	24	33	22	33	100	24	2	–	–
Computer systems analysts III	408	40.0	898.00	923.00	804.00– 990.00	–	–	–	–	–	–	–	–	4	8	5	10	15	28	28	23	78	121	64	17	7
Manufacturing	121	40.0	893.50	907.00	805.00– 969.50	–	–	–	–	–	–	–	–	–	–	1	6	7	7	7	8	30	36	13	2	4
Nonmanufacturing	287	40.0	900.00	935.00	804.00– 996.50	–	–	–	–	–	–	–	–	4	8	4	4	8	21	21	15	48	85	51	15	3
Computer systems analysts IV	93	40.0	966.50	969.00	918.00–1011.50	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	5	20	35	26	7	–
Computer programmers	337	40.0	673.00	681.00	582.00– 768.00	–	–	–	–	1	5	10	20	31	36	31	34	36	37	44	33	17	2	–	–	–
Nonmanufacturing	182	40.0	644.00	655.50	565.00– 731.50	–	–	–	–	1	5	10	13	14	23	21	18	25	18	20	13	1	–	–	–	–
Computer programmers II	124	40.0	584.50	587.50	535.50– 639.50	–	–	–	–	–	2	6	16	24	25	20	23	7	1	–	–	–	–	–	–	–
Nonmanufacturing	69	40.0	582.50	587.50	526.00– 643.00	–	–	–	–	–	2	6	9	8	14	11	15	4	–	–	–	–	–	–	–	–
Computer programmers III	129	40.0	726.50	729.50	697.00– 768.00	–	–	–	–	–	–	–	–	3	4	8	11	29	28	28	15	3	–	–	–	–
Computer operators	588	40.0	422.00	416.00	355.00– 483.50	2	26	40	85	105	93	76	66	62	20	7	6	–	–	–	–	–	–	–	–	–
Manufacturing	139	40.0	446.50	440.00	397.00– 490.00	–	1	1	12	24	32	27	19	11	6	5	1	–	–	–	–	–	–	–	–	–
Nonmanufacturing	449	40.0	414.50	404.00	346.50– 480.50	2	25	39	73	81	61	49	47	51	14	2	5	–	–	–	–	–	–	–	–	–
Transportation and utilities	45	40.0	503.50	544.00	472.00– 544.00	–	–	4	2	2	1	3	5	24	–	–	4	–	–	–	–	–	–	–	–	–
Computer operators I	63	39.0	324.50	311.50	274.00– 369.50	2	17	16	11	9	3	4	1	–	–	–	–	–	–	–	–	–	–	–	–	–
Nonmanufacturing	50	39.0	321.50	298.00	273.00– 369.50	2	16	15	3	6	3	4	1	–	–	–	–	–	–	–	–	–	–	–	–	–
Computer operators II	262	40.0	395.00	379.50	345.00– 430.00	–	9	23	64	60	49	18	12	25	2	–	–	–	–	–	–	–	–	–	–	–
Manufacturing	58	40.0	416.50	412.00	384.50– 442.00	–	–	–	4	18	21	11	3	1	–	–	–	–	–	–	–	–	–	–	–	–
Nonmanufacturing	204	40.0	388.50	369.00	334.50– 423.00	–	9	23	60	42	28	7	9	24	2	–	–	–	–	–	–	–	–	–	–	–
Computer operators III	230	40.0	464.50	456.50	419.00– 513.50	–	–	1	10	34	39	52	46	31	9	2	6	–	–	–	–	–	–	–	–	–
Manufacturing	51	40.0	477.00	468.50	437.50– 508.00	–	–	–	–	3	11	15	10	8	2	1	1	–	–	–	–	–	–	–	–	–
Nonmanufacturing	179	40.0	461.00	455.00	408.50– 514.00	–	–	1	10	31	28	37	36	23	7	1	5	–	–	–	–	–	–	–	–	–
Drafters	132	40.0	588.00	584.50	524.00– 650.50	–	–	–	–	5	9	5	12	18	20	17	25	6	5	9	1	–	–	–	–	–
Manufacturing	130	40.0	588.50	586.00	521.50– 651.00	–	–	–	–	5	9	5	12	17	19	17	25	6	5	9	1	–	–	–	–	–
Drafters IV	54	40.0	560.50	561.00	520.00– 592.00	–	–	–	–	–	1	4	8	13	15	5	6	2	–	–	–	–	–	–	–	–
Manufacturing	53	40.0	560.00	560.00	520.00– 592.00	–	–	–	–	–	1	4	8	13	14	5	6	2	–	–	–	–	–	–	–	–
Electronics technicians	910	40.0	535.50	554.50	465.50– 595.00	–	–	–	4	63	84	116	31	217	213	128	33	6	4	3	8	–	–	–	–	–
Manufacturing	212	40.0	548.00	540.50	450.50– 636.00	–	–	–	4	13	25	27	23	29	20	20	31	6	4	2	8	–	–	–	–	–
Nonmanufacturing	698	40.0	532.00	554.50	465.50– 595.00	–	–	–	–	50	59	89	8	188	193	108	2	–	–	1	–	–	–	–	–	–
Electronics technicians II	560	40.0	524.50	540.50	452.00– 595.00	–	–	–	–	53	76	107	28	28	149	106	2	1	–	2	8	–	–	–	–	–
Manufacturing	113	40.0	519.50	501.50	447.50– 550.50	–	–	–	–	3	19	22	22	26	10	–	–	1	–	2	8	–	–	–	–	–
Nonmanufacturing	447	40.0	526.00	595.00	465.50– 595.00	–	–	–	–	50	57	85	6	2	139	106	2	–	–	–	–	–	–	–	–	–
Transportation and utilities	443	40.0	527.00	595.00	465.50– 595.00	–	–	–	–	50	53	85	6	2	139	106	2	–	–	–	–	–	–	–	–	–
Electronics technicians III:																										
Manufacturing	73	40.0	643.00	644.50	618.00– 678.00	–	–	–	–	–	–	–	–	3	10	20	31	5	4	–	–	–	–	–	–	–

See footnotes at end of tables.

Table A-14. Average weekly earnings of office, professional, and technical workers, by sex in establishments employing 500 workers or more in Phoenix, AZ, June 1990

Sex,[4] occupation, and industry division	Number of workers	Average (mean[5])	
		Weekly hours[1] (standard)	Weekly earnings (in dollars)[2]
Office occupations - women			
Secretaries	2,565	40.0	422.50
Manufacturing	929	40.0	457.00
Nonmanufacturing	1,636	40.0	402.50
Secretaries I	237	40.0	340.00
Nonmanufacturing	196	40.0	330.50
Secretaries II	718	40.0	366.00
Manufacturing	210	40.0	395.50
Nonmanufacturing	508	40.0	354.00
Secretaries III	853	40.0	432.50
Manufacturing	389	40.0	451.00
Nonmanufacturing	464	40.0	417.00
Secretaries IV	656	40.0	477.50
Manufacturing	262	40.0	511.00
Nonmanufacturing	394	40.0	455.50
Secretaries V	101	40.0	569.00
Nonmanufacturing	74	40.0	554.00
Word processors	125	40.0	342.50
Nonmanufacturing	91	40.0	326.50
Word processors I	74	40.0	313.50
Nonmanufacturing	60	40.0	307.50
Word processors II	51	40.0	385.00
Key entry operators	656	39.5	305.50
Manufacturing	71	40.0	361.00
Nonmanufacturing	585	39.5	298.50
Key entry operators I	462	39.5	287.50
Nonmanufacturing	450	39.0	287.50
Key entry operators II	194	40.0	347.50
Nonmanufacturing	135	40.0	336.50
Accounting clerks:			
Manufacturing	288	40.0	412.00
Accounting clerks I	104	40.0	271.00
Nonmanufacturing	102	40.0	270.00
Accounting clerks II:			
Manufacturing	108	40.0	357.50
Accounting clerks III:			
Manufacturing	85	40.0	407.50
Accounting clerks IV	229	40.0	441.50
Manufacturing	93	40.0	481.50
Payroll clerks	141	40.0	352.50
Nonmanufacturing	114	40.0	340.50
Receptionists	68	40.0	254.50
Nonmanufacturing	58	40.0	243.00
Switchboard operators	143	40.0	252.00
Nonmanufacturing	125	40.0	239.00
Switchboard operator-receptionists	78	40.0	298.00
Nonmanufacturing	69	40.0	291.00
Professional and technical occupations - men			
Computer systems analysts	768	40.0	834.00
Manufacturing	315	40.0	811.00
Computer systems analysts I	136	40.0	684.00
Manufacturing	72	40.0	692.50
Nonmanufacturing	64	40.0	675.00
Computer systems analysts II:			
Manufacturing	125	40.0	784.00
Computer systems analysts III	272	40.0	917.00
Manufacturing	96	40.0	902.00
Nonmanufacturing	176	40.0	925.00
Computer programmers	199	40.0	678.00
Nonmanufacturing	117	40.0	649.00
Computer programmers II	76	40.0	588.00
Computer operators:			
Computer operators III	121	40.0	461.00
Nonmanufacturing	100	40.0	451.00
Drafters	105	40.0	603.00
Manufacturing	104	40.0	603.50
Electronics technicians:			
Manufacturing	161	40.0	571.00
Electronics technicians II:			
Manufacturing	92	40.0	529.00
Electronics technicians III:			
Manufacturing	62	40.0	649.50
Professional and technical occupations - women			
Computer systems analysts:			
Manufacturing	128	40.0	739.00
Computer systems analysts I	95	40.0	654.50
Computer systems analysts II:			
Manufacturing	62	40.0	757.00
Computer programmers	128	40.0	663.00
Nonmanufacturing	63	40.0	640.50
Computer programmers III	52	40.0	713.50
Computer operators:			
Manufacturing	84	40.0	434.00
Computer operators III	95	40.0	457.00
Nonmanufacturing	68	40.0	458.00

See footnotes at end of tables.

Table A-15. Hourly earnings of maintenance, toolroom, and powerplant workers in establishments employing 500 workers or more in Phoenix, AZ, June 1990

Occupation and industry division	Number of workers	Hourly earnings (in dollars)[1]			Number of workers receiving straight-time hourly earnings (in dollars) of —																						
		Mean[2]	Median[2]	Middle range[2]	5.00 and under 5.50	5.50 – 6.00	6.00 – 6.50	6.50 – 7.00	7.00 – 7.50	7.50 – 8.00	8.00 – 8.50	8.50 – 9.00	9.00 – 9.50	9.50 – 10.00	10.00 – 10.50	10.50 – 11.00	11.00 – 11.50	11.50 – 12.00	12.00 – 12.50	12.50 – 13.00	13.00 – 14.00	14.00 – 15.00	15.00 – 16.00	16.00 – 17.00	17.00 – 18.00	18.00 – 19.00	19.00 – 20.00
Maintenance electricians	194	16.86	18.15	15.17–19.74	–	–	–	–	–	–	–	–	–	–	6	3	8	2	4	6	6	11	13	32	–	34	69
Manufacturing	113	15.55	16.20	14.70–18.15	–	–	–	–	–	–	–	–	–	–	3	3	8	2	2	3	5	10	11	32	–	34	–
Maintenance mechanics (machinery)	76	15.68	15.99	14.89–16.20	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	2	16	19	34	2	2	–
Motor vehicle mechanics	314	15.19	15.44	13.54–15.79	–	–	–	–	–	–	–	–	2	–	2	8	4	23	8	12	56	16	105	26	–	–	52
Nonmanufacturing	268	15.68	15.44	13.93–16.46	–	–	–	–	–	–	–	–	2	–	–	6	2	5	4	3	50	13	105	26	–	–	52
General maintenance workers	232	8.12	7.22	6.71– 9.55	4	2	36	59	37	16	15	–	5	2	7	4	20	7	8	2	4	4	–	–	–	–	–
Nonmanufacturing	200	7.47	6.95	6.71– 7.75	4	2	36	59	37	16	15	–	5	2	7	2	8	3	4	–	–	–	–	–	–	–	–

See footnotes at end of tables.

Table A-16. Hourly earnings of material movement and custodial workers in establishments employing 500 workers or more in Phoenix, AZ, June 1990

Occupation and industry division	Number of workers	Hourly earnings (in dollars)[1]			Number of workers receiving straight-time hourly earnings (in dollars) of —																						
		Mean[2]	Median[2]	Middle range[2]	3.80 and under 4.00	4.00 – 4.50	4.50 – 5.00	5.00 – 5.50	5.50 – 6.00	6.00 – 6.50	6.50 – 7.00	7.00 – 7.50	7.50 – 8.00	8.00 – 8.50	8.50 – 9.00	9.00 – 9.50	9.50 – 10.00	10.00 – 10.50	10.50 – 11.00	11.00 – 11.50	11.50 – 12.00	12.00 – 13.00	13.00 – 14.00	14.00 – 15.00	15.00 – 16.00	16.00 – 17.00	17.00 – 18.00
Truckdrivers	1,029	14.12	14.00	13.20–15.77	–	–	–	–	–	3	4	2	4	47	–	17	1	3	15	3	10	137	182	132	396	70	3
Nonmanufacturing	842	14.49	15.77	13.85–15.77	–	–	–	–	–	1	3	2	3	46	–	14	1	–	2	2	2	2	165	130	396	70	3
Truckdrivers, tractor-trailer	617	13.42	13.68	12.95–14.00	–	–	–	–	–	–	–	–	–	45	–	14	1	1	12	2	4	134	173	123	35	70	3
Nonmanufacturing	462	13.64	13.85	13.63–14.00	–	–	–	–	–	–	–	–	–	45	–	14	1	–	2	2	2	2	165	121	35	70	3
Transportation and utilities	153	13.86	15.98	8.00–16.42	–	–	–	–	–	–	–	–	–	45	–	–	–	–	–	–	–	–	–	–	35	70	3
Warehousemen	1,325	11.48	13.53	9.70–13.65	–	–	–	34	49	30	47	27	32	40	15	30	110	37	28	100	15	6	718	3	–	4	–
Nonmanufacturing	1,245	11.58	13.53	9.70–13.66	–	–	–	34	49	30	47	27	32	35	9	22	90	7	17	100	15	6	718	3	–	4	–
Transportation and utilities	58	8.56	6.98	6.01–10.58	–	–	–	6	6	14	4	–	4	–	–	–	2	6	8	–	–	1	–	3	–	4	–
Material handling laborers	61	8.17	8.75	7.14– 8.84	–	–	3	6	2	2	1	3	6	3	24	1	2	4	–	2	–	–	2	–	–	–	–
Guards: Manufacturing	181	9.64	9.20	8.74–10.78	–	–	–	–	–	–	–	6	8	12	38	35	9	12	31	24	3	3	–	–	–	–	–
Guards I: Manufacturing	112	9.39	9.15	8.59–10.26	–	–	–	–	–	–	–	6	2	11	24	29	7	9	10	14	–	–	–	–	–	–	–
Janitors, porters, and cleaners	450	6.20	5.50	4.75– 7.33	–	48	121	52	53	21	25	21	11	16	25	7	1	48	–	–	1	–	–	–	–	–	–
Manufacturing	162	8.22	8.61	6.90–10.15	–	–	12	8	–	5	18	15	7	15	25	7	1	48	–	–	1	–	–	–	–	–	–
Nonmanufacturing	288	5.06	4.94	4.56– 5.50	–	48	109	44	53	16	7	6	4	1	–	–	–	–	–	–	–	–	–	–	–	–	–

See footnotes at end of tables.

Table A-17. Average hourly earnings of maintenance, toolroom, powerplant, material movement and custodial workers by sex in establishments employing 500 workers or more in Phoenix, AZ, June 1990

Sex,[4] occupation, and industry division	Number of workers	Average (mean[3]) hourly earnings (in dollars)[3]
Maintenance, toolroom, and powerplant occupations - men		
Maintenance electricians	191	16.88
Manufacturing	110	15.54
Maintenance mechanics (machinery)	76	15.68
Motor vehicle mechanics	306	15.18
Nonmanufacturing	260	15.70
General maintenance workers	231	8.13
Nonmanufacturing	199	7.47
Material movement and custodial occupations - men		
Truckdrivers:		
Truckdrivers, tractor-trailer	542	13.02
Nonmanufacturing	387	13.12
Material handling laborers	61	8.17
Guards:		
Manufacturing	151	9.69
Guards I:		
Manufacturing	89	9.42
Janitors, porters, and cleaners	349	6.00
Manufacturing	111	8.33
Material movement and custodial occupations - women		
Janitors, porters, and cleaners:		
Manufacturing	51	7.97

See footnotes at end of tables.

Footnotes

Some of these standard footnotes may not apply to this bulletin.

[1] Standard hours reflect the workweek for which employees receive their regular straight-time salaries (exclusive of pay for overtime at regular and/or premium rates), and the earnings correspond to these weekly hours.

[2] Excludes premium pay for overtime and for work on weekends, holidays, and late shifts. Also excluded are performance bonuses and lump-sum payments of the type negotiated in the auto and aerospace industries, as well as profit-sharing payments, attendance bonuses, Christmas or year-end bonuses, and other nonproduction bonuses. Pay increases—but not bonuses—under cost-of-living allowance clauses, and incentive payments, however, are included.

[3] The mean is computed for each job by totaling the earnings of all workers and dividing by the number of workers. The median designates position—one-half of the workers receive the same as or more and one-half receive the same as or less than the rate shown. The middle range is defined by two rates of pay; one-fourth of the workers earn the same as or less than the lower of these rates and one-fourth earn the same as or more than the higher rate.

[4] Earnings data relate only to workers whose sex identification was provided by the establishment.

[5] Estimates for periods ending prior to 1976 relate to men only for skilled maintenance and unskilled plant workers. All other estimates relate to men and women.

[6] Data do not meet publication criteria or data not available.

Appendix A. Scope and Method of Survey

In January 1987, the Bureau began to phase in a new 90-area program to replace the 70-area program that had produced annual surveys since July 1974. When the new plan is fully implemented in 1990, 32 of the areas will be surveyed annually, and two groups of 29 areas will be surveyed in alternate years. (For a full discussion of the change, see Laura Scofea, "BLS Area Wage Surveys Will Cover More Areas," *Monthly Labor Review*, June 1986, pp. 19-23.)

In each area surveyed,[1] the Bureau obtains wages and related benefits data from representative establishments within six broad industry divisions: Manufacturing; transportation, communication, and other public utilities; wholesale trade; retail trade; finance, insurance, and real estate; and services. Government operations and the construction and extractive industries are excluded. Small establishments—generally those with fewer than 50 employees—are excluded because they have few incumbents in the occupations studied. Appendix table 1 shows the number of establishments and workers estimated to be within the scope of this survey, as well as the number actually studied.

In the 32 areas surveyed annually, Bureau field representatives obtain data by personal visits at 4-year intervals. In intervening years, only information on employment and occupational earnings is collected by a combination of personal visit, mail questionnaire, and telephone interview from establishments participating in the previous survey.

In the two groups of 29 areas that are surveyed in alternate years, Bureau field representatives obtain data for a given area by personal visits if the previous data for the area were obtained primarily by mail and telephone. Thus, in a 4-year period, an area that was surveyed by personal visit the first year will have no survey in the second, a mail and telephone survey in the third, and none in the fourth. As with annual surveys, information on establishment practices and employee benefits is presented only for surveys conducted by personal visits; when information is collected primarily by mail and telephone, only information on employment and earnings is presented.

A sample of the establishments in the scope of the survey is selected for study prior to each personal visit survey. This sample, minus establishments which go out of business or are no longer within the industrial scope of the survey, is retained until the next personal visit survey is conducted. In most cases, establishments new to the area are not considered in the scope of the survey until the selection of a sample for a personal visit survey.

The sampling procedures involve detailed stratification by industry and number of employees of all establishments within the scope of a survey. From this stratified universe, a probability sample is selected, with each establishment having a predetermined chance of selection. To obtain optimum accuracy at minimum cost, a greater proportion of large than small establishments is selected. When data are combined, each establishment is weighted according to its probability of selection so that unbiased estimates are generated. For example, if one out of four establishments is selected, it is given a weight of 4 to represent itself plus three others. If data are not available for an establishment originally selected, the weights of other similar establishments are increased to account for the missing unit.

Occupations and earnings

Occupations selected for study are common to a variety of manufacturing and nonmanufacturing industries, and are of the following types: (1) Office clerical; (2) professional and technical; (3) maintenance, toolroom, and powerplant; and (4) material movement and custodial. Occupational classification is based on a uniform set of job descriptions designed to take account of interestablishment variation in duties within the same job. Occupations selected for study are listed and described in appendix B, along with corresponding occupational codes and titles from the 1980 edition of the *Standard Occupational Classification Manual*.

Unless otherwise indicated, the earnings data following the job titles are for all industries combined. Earnings data for some of the occupations listed and described, or for some industry divisions within the scope of the survey, are not presented in the A-series tables because either (1) data were insufficient to provide meaningful statistical results, or (2) there is a possibility of disclosure of individual establishment data. Earnings data not shown separately for industry divisions are included in data for all industries combined.

Separate data for men's and women's earnings or earnings by occupational level are not presented when a significant number of workers are not identified by sex or level. In such cases, workers are only included for both sexes combined or for the overall level.

Occupational employment and earnings data are shown for full-time workers, i.e., those hired to work a regular weekly schedule. Earnings data exclude premium pay for overtime and for work on weekends, holidays, and late shifts. Also excluded are performance bonuses and lump-sum payments of the type negotiated in the auto and

aerospace industries, as well as profit-sharing payments, attendance bonuses, Christmas or year-end bonuses, and other nonproduction bonuses. Pay increases—but not bonuses—under cost-of-living allowance clauses, and incentive payments, however, are included. Weekly hours for office clerical and professional and technical occupations refer to the standard workweek (rounded to the nearest half hour) for which employees receive regular straight-time salaries (exclusive of pay for overtime at regular and/or premium rates). Average weekly earnings for these occupations are rounded to the nearest half dollar. Some A-series tables provide distributions of workers by earnings; changes in the size of earnings intervals are indicated by heavy vertical lines.

These surveys measure the level of occupational earnings in an area at a particular time. Changes in an occupational average over time reflect, in addition to earnings changes, factors such as changes in proportions of workers employed by high- or low-wage firms, or high-wage workers advancing to better jobs and being replaced by new workers at lower rates. Such shifts in employment could decrease an occupational average even though most establishments in an area increased wages since the last survey. Changes in earnings of occupational groups, shown in table A-7, are better indicators of wage trends than are earnings changes for individual jobs within the groups.

Average earnings reflect composite, areawide estimates. Industries and establishments differ in pay level and job staffing, and thus contribute differently to the estimates for each job. Pay averages may fail to reflect accurately the wage differential among jobs in individual establishments.

Average pay levels for men and women in selected occupations should not be assumed to reflect differences in pay of the sexes within individual establishments. Factors which may contribute to differences include progression within established rate ranges (only the rates paid incumbents are collected) and performance of specific duties within the general survey job descriptions. Job descriptions used to classify employees in these surveys usually are more generalized than those used in individual establishments and allow for minor differences among establishments in specific duties performed.

Occupational employment estimates represent the total in all establishments within the scope of the study and not the number actually surveyed. Because occupational structures among establishments differ, estimates of occupational employment obtained from the sample of establishments studied serve only to indicate the relative importance of the jobs studied. These differences in occupational structure do not affect materially the accuracy of the earnings data.

Wage trends for selected occupational groups

Indexes in table A-7 measure wages at a given time expressed as a percent of wages during the base period. Subtracting 100 from the index yields the percent change in wages from the base period to the date of the index. The percent increases in table A-7 relate to wage changes between the indicated dates. Annual rates of increase, where shown, reflect the amount of increase for 12 months when the time span between surveys was other than 12 months. These computations are based on the assumption that wages increased at a constant rate between surveys.

The indexes and percent increases are based on changes in average hourly earnings of men and women in establishments reporting the jobs listed below in both the current and previous year (matched establishments). The data are adjusted to remove the effect on average earnings of employment shifts among establishments and turnover of establishments included in survey samples. The percent increases, however, are still affected by factors other than wage increases. Turnover may affect an establishment average for an occupation when workers are paid under plans providing a range of wage rates for individual jobs. In periods of increased hiring, for example, new employees may enter at the bottom of the range, depressing the average without a change in wage rates.

Occupations used to compute wage trends are:

Office clerical

Secretaries
Stenographers I and II
Typists I and II
Key entry operators I and II
Accounting clerks I, II, III, and IV
Payroll clerks
File clerks I, II, and III
Messengers
Order clerks I and II
Switchboard operators

Electronic data processing

Computer systems analysts I, II, III, and IV
Computer programmers I, II, III, and IV
Computer operators I, II, III, and IV

Industrial nurses

Registered industrial nurses

Skilled maintenance

Carpenters
Electricians
Painters
Machinists
Mechanics (machinery)
Pipefitters
Motor vehicle mechanics
Tool and die makers

Unskilled plant

Janitors, porters, and cleaners
Material handling laborers

Percent changes for individual areas in the program are computed as follows:

1. Each occupation is assigned a weight based on its proportion of employment in the occupational group in the earlier of the 2 years being compared. If for example, 1,000 workers were reported in the skilled maintenance group in the earlier year and 200 of these workers were painters, the weight assigned to painters would be 0.20. Using a constant employment weight dampens the effects of employment shifts on wage change measures.
2. Average earnings are computed for each occupation for the 2 years being compared. Earnings are used only from matched establishments; that is, establishments that are in the survey both years.
3. Group averages are computed by multiplying the weight of each occupation (step 1) by the occupation's average earnings for each year (step 2). The products are totaled to obtain group averages.

4. The ratio of group averages for 2 consecutive years is computed by dividing the average for the current year by the average for the earlier year. The result—expressed as a percent—less 100 is the percent change.

Pay relationships in establishments

Tables A-8 through A-11 compare average pay of occupations in individual establishments. These comparisons, expressed as pay relatives (pay for one of the occupations equals 100), differ from comparisons of overall survey averages, such as those shown in tables A-1 through A-6. The latter reflect differences in contributions to the survey averages by establishments with disparate pay levels; the pay relative comparisons are not affected by such differences. The following procedures are used to compute relatives in tables A-8 through A-11:

1. Establishments employing workers in both of the paired occupations were identified.

2. Pay levels (averages) for the two occupations were weighted by the combined employment of both jobs to reflect each establishment's contribution to the totals used in this comparison.

3. The weighted pay levels of the two jobs were summed separately; each total was divided by the other and the quotients multiplied by 100 to produce the two pay relatives shown for each job pairing.

Establishment practices and employee benefits

Tabulations on selected establishment practices and employee benefits (B-series tables) are not presented in this bulletin. In this area, information for these tabulations is collected at 4-year intervals. These tabulations on minimum entrance salaries for inexperienced office workers; shift differentials; scheduled weekly hours and days; paid holidays; paid vacations; health, insurance, and retirement plans; and other selected benefits are presented (in the B-series tables) in a previous bulletin for this area.

[1]The Bureau also conducts more limited area studies in over 100 areas at the request of the Employment Standards Administration of the U.S. Department of Labor.

Appendix table 1. Establishments and workers within scope of survey and number studied in Phoenix, AZ,[1] June 1990

Industry division[2]	Minimum employment in establishments in scope of survey	Number of establishments		Workers in establishments		
		Within scope of survey[3]	Studied	Within scope of survey[3]		Studied
				Number	Percent	
All establishments						
All divisions	–	1,415	206	344,688	100	170,854
Manufacturing	50	283	48	81,124	24	50,803
Nonmanufacturing	–	1,132	158	263,564	76	120,051
Transportation, communication, and other public utilities[5]	50	77	27	35,299	10	26,814
Wholesale trade[6]	50	165	17	17,027	5	3,215
Retail trade[6]	50	465	45	100,979	29	46,788
Finance, insurance, and real estate[6]	50	127	23	45,885	13	27,310
Services[6][7]	50	298	46	64,374	19	15,924
Large establishments						
All divisions	–	110	61	188,531	100	146,911
Manufacturing	500	17	14	48,559	26	44,346
Nonmanufacturing	–	93	47	139,972	74	102,565
Transportation, communication, and other public utilities[5]	500	12	8	26,816	14	23,933
Wholesale trade[6]	500	2	2	1,490	1	1,490
Retail trade[6]	500	31	20	51,178	27	42,701
Finance, insurance, and real estate[6]	500	14	8	32,912	17	24,860
Services[6][7]	500	34	9	27,576	15	9,581

[1] The Phoenix, AZ Metropolitan Statistical Area, as defined by the Office of Management and Budget through October 1984, consists of Maricopa County. The "workers within scope of survey" estimates provide a reasonably accurate description of the size and composition of the labor force included in the survey. Estimates are not intended, however, for comparison with other statistical series to measure employment trends or levels since (1) planning of wage surveys requires establishment data compiled considerably in advance of the payroll period studied, and (2) small establishments are excluded from the scope of the survey.

[2] The *Standard Industrial Classification Manual* was used in classifying establishments by industry. All government operations are excluded from the scope of the survey.

[3] Includes all establishments with total employment at or above the minimum limitation. All outlets (within the area) of nonmanufacturing companies are considered as one establishment when located within the same industry division.

[4] Includes all workers in all establishments with total employment (within the area) at or above the minimum limitation.

[5] Abbreviated to "transportation and utilities" in the A-series tables. Taxicabs and services incidental to water transportation are excluded.

[6] Separate data for this division are not presented in the A-series tables, but the division is represented in the "all industries" and "nonmanufacturing" estimates.

[7] Hotels and motels; laundries and other personal services; business services; automobile repair, rental, and parking; motion pictures; nonprofit membership organizations (excluding religious and charitable organizations); and engineering and architectural services.

Appendix B. Occupational Descriptions

The primary purpose of preparing job descriptions for the Bureau's wage surveys is to assist its field representatives in classifying into appropriate occupations workers who are employed under a variety of payroll titles and different work arrangements from establishment to establishment and from area to area. This permits grouping of occupational wage rates representing comparable job content. Because of this emphasis on comparability of occupational content, the Bureau's job descriptions may differ significantly from those in use in individual establishments or those prepared for other purposes. In applying these job descriptions, the Bureau's field representatives are instructed to exclude working supervisors; apprentices, learners, beginners, and trainees; and part-time, temporary, and probationary workers unless specifically included in the job description. Handicapped workers whose earnings are reduced because of their handicap are also excluded.

The titles and numerical codes below the job titles in this appendix are taken from the 1980 edition of the *Standard Occupational Classification Manual* (SOC), issued by the U.S. Department of Commerce, Office of Federal Statistical Policy and Standards.

In general, the Bureau of Labor Statistics' occupational descriptions are much more specific than those found in the SOC manual. The BLS occupation, "Registered Industrial Nurse," for example, is limited to workers providing medical assistance and other related services (e.g., health education) to persons who are ill or become ill or suffer an injury in a factory or other establishment. The SOC occupation (code 29) includes a variety of registered nurses (e.g., school nurse, head nurse, general duty nurse, private duty nurse) that are excluded from the BLS description.

Thus, in comparing the results of this survey with other sources, factors such as differences in occupational definitions and survey scope should be taken into consideration.

Office

SECRETARY

(4622: Secretary)

Provides principal secretarial support in an office, usually to one individual, and, in some cases, also to the subordinate staff of that individual. Maintains a close and highly responsive relationship to the day-to-day activities of the supervisor and staff. Works fairly independently, receiving a minimum of detailed supervision and guidance. Performs varied clerical and secretarial duties requiring a knowledge of office routine and an understanding of the organization, programs, and procedures related to the work of the office.

Exclusions. Not all positions that are titled "secretary" possess the above characteristics. Examples of positions which are excluded from the definition are as follows:

a. Clerks or secretaries working under the direction of secretaries or administrative assistants as described in e;
b. Stenographers not fully performing secretarial duties;
c. Stenographers or secretaries assigned to two or more professional, technical, or managerial persons of equivalent rank;
d. Assistants or secretaries performing any kind of technical work, e.g., personnel, accounting, or legal work;
e. Administrative assistants or supervisors performing duties which are more difficult or more responsible than the secretarial work described in LR-1 through LR-4;
f. Secretaries receiving additional pay primarily for maintaining confidentiality of payroll records or other sensitive information;
g. Secretaries performing routine receptionist, typing, and filing duties following detailed instructions and guidelines; these duties are less responsible than those described in LR-1 below;
h. Trainees.

Classification by level. Secretary jobs which meet the required characteristics are matched at one of five levels according to two factors: (a) Level of the secretary's supervisor within the overall organizational structure, and (b) level of the secretary's responsibility. The table following the explanations of these factors indicates the level of the secretary for each combination of factors.

Level of Secretary's Supervisor (LS)

Secretaries should be matched at one of the three LS levels below best describing the organization of the secretary's supervisor.

LS-1

Organizational structure is not complex and internal procedures and administrative controls are simple and informal; supervisor directs staff through face-to-face meetings.

LS-2

Organizational structure is complex and is divided into subordinate groups that usually differ from each other as to subject matter, function, etc.; supervisor usually directs staff through intermediate supervisors; internal procedures and administrative controls are formal. An entire organization (e.g., division, subsidiary, or parent organization) may contain a variety of subordinate groups which meet the LS-2 definition. Therefore, it is not unusual for one LS-2 supervisor to report to another LS-2 supervisor.

The presence of subordinate supervisors does not by itself mean LS-2 applies, e.g., a clerical processing organization divided into several units, each performing very similar work, is placed in LS-1.

In smaller organizations or industries such as retail trade, with relatively few organizational levels, the supervisor may have an impact on the policies and major programs of the entire organization, and may deal with important outside contacts, as described in LS-3.

LS-3

Organizational structure is divided into two or more subordinate supervisory levels (of which at least one is a managerial level) with several subdivisions at each level. Executive's program(s) are usually interlocked on a direct and continuing basis with other major organizational segments, requiring constant attention to extensive formal coordination, clearances, and procedural controls. Executive typically has: Financial decisionmaking authority for assigned program(s); considerable impact on the entire organization's financial position or image; and responsibility for, or has staff specialists in, such areas as personnel and administration for assigned organization. Executive plays an important role in determining the policies and major programs of the entire organization, and spends considerable time dealing with outside parties actively interested in assigned program(s) and current or controversial issues.

Level of Secretary's Responsibility (LR)

This factor evaluates the nature of the work relationship between the secretary and the supervisor or staff, and the extent to which the secretary is expected to exercise initiative and judgment. Secretaries should be matched at the level best describing their level of responsibility. When a position's duties span more than one LR level, the introductory paragraph at the beginning of each LR level should be used to determine which of the levels best matches the position. (Typically, secretaries performing at the higher levels of responsibility also perform duties described at the lower levels.)

LR-1

Carries out recurring office procedures independently. Selects the guideline or reference which fits the specific case. Supervisor provides specific instructions on new assignments and checks completed work for accuracy. Performs varied duties including or comparable to the following:

a. Responds to routine telephone requests which have standard answers; refers calls and visitors to appropriate staff. Controls mail and assures timely staff response; may send form letters;
b. As instructed, maintains supervisor's calendar, makes appointments, and arranges for meeting rooms;
c. Reviews materials prepared for supervisor's approval for typographical accuracy and proper format;
d. Maintains recurring internal reports, such as: Time and leave records, office equipment listings, correspondence controls, training plans, etc.;
e. Requisitions supplies, printing, maintenance, or other services. Types, takes and transcribes dictation, and establishes and maintains office files.

LR-2

Handles differing situations, problems, and deviations in the work of the office according to the supervisor's general instructions, priorities, duties, policies, and program goals. Supervisor may assist secretary with special assignments. Duties include or are comparable to the following:

a. Screens telephone calls, visitors, and incoming correspondence; personally responds to requests for information concerning office procedures; determines which requests should be handled by the supervisor, appropriate staff member, or other offices. May prepare and sign routine, nontechnical correspondence in own or supervisor's name;
b. Schedules tentative appointments without prior clearance. Makes arrangements for conferences and meetings and assembles established background materials, as directed. May attend meetings and record and report on the proceedings;
c. Reviews outgoing materials and correspondence for internal consistency and conformance with supervisor's procedures; assures that proper clearances have been obtained, when needed;
d. Collects information from the files or staff for routine inquiries on office program(s) or periodic reports. Refers nonroutine requests to supervisor or staff;
e. Explains to subordinate staff supervisor's requirements concerning office procedures. Coordinates personnel and administrative forms for the office and forwards for processing.

LR-3

Uses greater judgment and initiative to determine the approach or action to take in nonroutine situations. Interprets and adapts guidelines, including unwritten policies, precedents, and practices, which are not always completely applicable to changing situations. Duties include or are comparable to the following:

a. Based on a knowledge of the supervisor's views, composes correspondence on own initiative about administrative matters and general office policies for supervisor's approval;
b. Anticipates and prepares materials needed by the supervisor for conferences, correspondence, appointments, meetings, telephone calls, etc;, and informs supervisor on matters to be considered;
c. Reads publications, regulations, and directives and takes action or refers those that are important to the supervisor and staff;
d. Prepares special or one-time reports, summaries, or replies to inquiries, selecting relevant information from a variety of sources such as reports, documents, correspondence, other offices, etc., under general direction;
e. Advises secretaries in subordinate offices on new procedures; requests information needed from the subordinate office(s) for periodic or special conferences, reports, inquiries, etc. Shifts clerical staff to accommodate workload needs.

LR-4

Handles a wide variety of situations and conflicts involving the clerical or administrative functions of the office which often cannot be brought to the attention of the executive. The executive sets the overall objectives of the work. Secretary may participate in developing the work deadlines. Duties include or are comparable to the following:

a. Composes correspondence requiring some understanding of technical matters; may sign for executive when technical or policy content has been authorized;
b. Notes commitments made by executive during meetings and arranges for staff implementation. On own initiative, arranges for staff member to represent organization at conferences and meetings, establishes appointment priorities, or reschedules or refuses appointments or invitations;
c. Reads outgoing correspondence for executive's approval and alerts writers to any conflict with the file or departure from policies or executive's viewpoints; gives advice to resolve the problems;
d. Summarizes the content of incoming materials, specially gathered information, or meetings to assist executive; coordinates the new information with background office sources; draws attention to important parts or conflicts;
e. In the executive's absence, ensures that requests for action or information are relayed to the appropriate staff member; as needed, interprets request and helps implement action; makes sure that information is furnished in timely manner; decides whether executive should be notified of important or emergency matters.

Exclude secretaries performing any of the following duties:

Acts as office manager for the executive's organization, e.g., determines when new procedures are needed for changing situations and devises and implements alternatives; revises or clarifies procedures to eliminate conflict or duplication; identifies and resolves various problems that affect the orderly flow of work in transactions with parties outside the organization.

Prepares agenda for conferences; explains discussion topics to participants; drafts introductions and develops background information and prepares outlines for executive or staff member(s) to use in writing speeches.

Advises individuals outside the organization on the executive's views on major policies or current issues facing the organization; contacts or responds to contacts from high-ranking outside officials (e.g., city or State officials, members of Congress, presidents of national unions or large national or international firms, etc.) in unique situations. These officials may be relatively inaccessible. and each contact typically must be handled differently, using judgment and discretion.

Criteria For Matching Secretaries By Level

Level of Secretary's Supervisor	Level of Secretary's Responsibility			
	LR-1	LR-2	LR-3	LR-4
LS-1	I	II	III	IV
LS-2	I	III	IV	V
LS-3	I	IV	V	V

STENOGRAPHER

(4623: Stenographer)

Primary duty is to take dictation using shorthand, and to transcribe the dictation. May also type from written copy. May operate from a stenographic pool. May occasionally transcribe from voice recordings.

Excluded from this definition are:

a. Trainee positions not requiring a fully qualified stenographer;
b. Secretaries providing the principal secretarial support in an office and performing more responsible and discretionary tasks, as described in LR-l through LR-4 in the secretary definition above;
c. Stenographers who take dictation involving the frequent use of a wide variety of technical or specialized vocabulary. Typically this kind of vocabulary cannot be learned in a relatively short period of time, e.g., a month or two;
d. Stenographers, such as shorthand reporters, who record material verbatim at hearings, conferences, or similar proceedings.

Stenographer I

Takes and transcribes dictation, receiving specific assignments along with detailed instructions on such requirements as form and presentation. The transcribed material is typically reviewed in rough draft, and the final transcription is reviewed for conform-

ance with the rough draft. May maintain files, keep simple records, or perform other relatively routine clerical tasks.

Stenographer II

Takes and transcribes dictation determining the most appropriate format. Performs stenographic duties requiring significantly greater independence and responsibility than Stenographer I. Supervisor typically provides general instructions. Work requires a thorough working knowledge of general business and office procedures and of the specific business operations, organizations, policies, procedures, files, workflow, etc. Uses this knowledge in performing stenographic duties and responsible clerical tasks such as maintaining follow-up files; assembling material for reports, memoranda, and letters; composing simple letters from general instructions; reading and routing incoming mail; answering routine questions, etc.

TYPIST

(4624: Typist)

Uses a manual, electric, or automatic typewriter to type various materials. Included are automatic typewriters that are used only to record text and update and reproduce previously typed items from magnetic cards or tape. May include typing of stencils, mats, or similar materials for use in duplicating processes. May do clerical work involving little special training, such as keeping simple records, filing records and reports, or sorting and distributing incoming mail.

Excluded from this definition is work that involves:

a. Typing directly from spoken material that has been recorded on disks, cylinders, belts, tapes, or other similar media;
b. The use of varitype machines, composing equipment, or automatic equipment in preparing material for printing; and
c. Familiarity with specialized terminology in various keyboard commands to manipulate or edit the recorded text to accomplish revisions, or to perform tasks such as extracting and listing items from the text, or transmitting text to other terminals, or using "sort" commands to have the machine reorder material. Typically requires the use of automatic equipment which may be either computer linked or have a programmable memory so that material can be organized in regularly used formats or preformed paragraphs which can then be coded and stored for future use in letters or documents.

Typist I

Performs *one or more of the following:* Copy typing from rough or clear drafts; or routine typing of forms, insurance policies, etc.; or setting up simple standard tabulations; or copying more complex tables already set up and spaced properly.

Typist II

Performs *one or more of the following:* Typing material in final form when it involves combining material from several sources; or responsibility for correct spelling, syllabication, punctuation, etc., of technical or unusual words or foreign language material; or planning layout and typing of complicated statistical tables to maintain uniformity and balance in spacing. May type routine form letters, varying details to suit circumstances.

WORD PROCESSOR

(4624: Typist)

Primary duty is to operate word-processing equipment to enter, store, retrieve, change, and present text or tabulations. Produces a variety of printed copy such as letters, documents, or reports. May enter regularly used formats or stored paragraphs that are organized and coded for future use. Recorded texts can be changed by rearranging paragraphs, replacing words, shifting lines, etc.

(Word-processing equipment typically has a full- or partial-page video-display screen (CRT) and a separate printer. The equipment may be integrated with a digital computer, have telecommunications capabilities, and also have capabilities for adding to or upgrading features. Automatic or electronic typewriters with limited text-editing capabilities, and often with single-line electronic display "windows," are not considered word-processing equipment.)

Excluded from this definition are:

a. Workers whose primary function is to enter a data base for purposes other than composition (see key entry operator);
b. Workers who use equipment and data base for purposes such as accounting, inventory control, sales, or original writing and editing;
c. Workers responsible for preparation of published reports, including page layout or selection of different type sizes.

Positions are classified into levels on the basis of the following definitions:

Word Processor I

Performs tasks requiring a knowledge of the word-processing equipment and familiarity with the formats and forms used in the establishment. Proficiency in grammar, spelling, and punctuation is also required to produce printed materials accurately. May refer problems to supervisor or higher level processor, or refer to operating manual.

Word Processor II

Work at this level requires considerable classroom or on-the-job training and may involve working directly with task originator rather than through supervisor. In addition to work assignments described for level I, duties include *one or more of the following:*

a. Uses the more sophisticated features of the equipment to carry out complex assignments, such as sorting, merging, and organizing text, or maintaining files;
b. Applies knowledge of specialized terminology or foreign language;
c. Tests new applications and procedures; or
d. Trains lower level processors.

KEY ENTRY OPERATOR

(4793: Data entry keyer)

Operates keyboard-controlled data entry device such as keypunch machine or key-operated magnetic tape or disk encoder to transcribe data into a form suitable for computer processing. Work requires skill in operating an alphanumeric keyboard and an understanding of transcribing procedures and relevant data entry equipment.

Positions are classified into levels on the basis of the following definitions:

Key Entry Operator I

Work is routine and repetitive. Under close supervision or following specific procedures or detailed instructions, works from various standardized source documents which have been coded and require little or no selecting, coding, or interpreting of data to be entered. Refers to supervisor problems arising from erroneous items, codes, or missing information.

Key Entry Operator II

Work requires the application of experience and judgment in selecting procedures to be followed and in searching for, interpreting, selecting, or coding items to be entered from a variety of source documents. On occasion may also perform routine work as described for level I.

NOTE: Excluded are operators above level II using the key entry controls to access, read, and evaluate the substance of specific records to take substantive actions, or to make entries requiring a similar level of knowledge.

ACCOUNTING CLERK

(4712: Bookkeeper and accounting and auditing clerk)

Performs one or more accounting tasks such as posting to registers and ledgers; balancing and reconciling accounts; verifying the internal consistency, completeness, and mathematical accuracy of accounting documents; assigning prescribed accounting distribution codes; examining and verifying the clerical accuracy of various types of reports, lists, calculations, postings, etc.; preparing journal vouchers; or making entries or adjustments to accounts.

Levels I and II require a basic knowledge of routine clerical methods and office practices and procedures as they relate to the clerical processing and recording of transactions and accounting information. Levels III and IV require a knowledge and understanding of the established and standardized bookkeeping and accounting procedures and techniques used in an accounting system, or a segment of an accounting system, where there are few variations in the types of transactions handled. In addition, some jobs at each level may require a basic knowledge and understanding of the terminology, codes, and processes used in an automated accounting system.

Accounting Clerk I

Performs very simple and routine accounting clerical operations, for example, recognizing and comparing easily identified numbers and codes on similar and repetitive accounting documents, verifying mathematical accuracy, and identifying discrepancies and bringing them to the supervisor's attention. Supervisor gives clear and detailed instructions for specific assignments. Employee refers to supervisor all matters not covered by instructions. Work is closely controlled and reviewed in detail for accuracy, adequacy, and adherence to instructions.

Accounting Clerk II

Performs one or more routine accounting clerical operations, such as: Examining, verifying, and correcting accounting transactions to ensure completeness and accuracy of data and proper identification of accounts, and checking that expenditures will not exceed obligations in specified accounts; totaling, balancing, and reconciling collection vouchers; posting data to transaction sheets where employee identifies proper accounts and items to be posted; and coding documents in accordance with a chart (listing) of accounts. Employee follows specific and detailed accounting procedures. Completed work is reviewed for accuracy and compliance with procedures.

Accounting Clerk III

Uses a knowledge of double entry bookkeeping in performing one or more of the following: Posts actions to journals, identifying subsidiary accounts affected and debit and credit entries to be made and assigning proper codes; reviews computer printouts against manually maintained journals, detecting and correcting erroneous postings, and preparing documents to adjust accounting classifications and other data; or reviews lists of transactions rejected by an automated system, determining reasons for rejections, and preparing necessary correcting material. On routine assignments, employee selects and applies established procedures and techniques. Detailed instructions are provided for difficult or unusual assignments. Completed work and methods used are reviewed for technical accuracy.

Accounting Clerk IV

Maintains journals or subsidiary ledgers of an accounting system and balances and reconciles accounts. Typical duties include one or both of the following: Reviews invoices and statements (verifying information, ensuring sufficient funds have been obligated, and if questionable, resolving with the submitting unit, determining accounts involved, coding transactions, and processing material through data processing for application in the accounting system); and/or analyzes and reconciles computer printouts with operating unit reports (contacting units and researching causes of discrepancies, and taking action to ensure that accounts balance). Employee resolves problems in recurring assignments in accordance with previous training and experience. Supervisor provides suggestions for handling unusual or nonrecurring transactions. Conformance with requirements and technical soundness of completed work are reviewed by the supervisor or are controlled by mechanisms built into the accounting system.

NOTE: Excluded from level IV are positions responsible for maintaining either a general ledger or a general ledger in combination with subsidiary accounts.

PAYROLL CLERK

(4713: Payroll and timekeeping clerk)

Performs the clerical tasks necessary to process payrolls and to maintain payroll records. Work involves *most of the following*: Processing workers' time or production records; adjusting workers' records for changes in wage rates, supplementary benefits, or tax deductions; editing payroll listings against source records; tracing and correcting errors in listings; and assisting in preparation of periodic summary payroll reports. In a nonautomated payroll system, computes wages. Work may require a practical knowledge of governmental regulations, company payroll policy, or the computer system for processing payrolls.

FILE CLERK

(4696: File clerk)

Files, classifies, and retrieves material in an established filing system. May perform clerical and manual tasks required to maintain files. Positions are classified into levels on the basis of the following definitions:

File Clerk I

Performs routine filing of material that has already been classified or which is easily classified in a simple serial classification system (e.g., alphabetical, chronological, or numerical). As requested, locates readily available material in files and forwards material; and may fill out withdrawal charge. May perform simple clerical and manual tasks required to maintain and service files.

File Clerk II

Sorts, codes, and files unclassified material by simple (subject matter) headings or partly classified material by finer subheadings. Prepares simple related index and cross-reference aids. As requested, locates clearly identified material in files and forwards material. May perform related clerical tasks required to maintain and service files.

File Clerk III

Classifies and indexes file material such as correspondence, reports, technical documents, etc., in an established filing system containing a number of varied subject matter files. May also file this material. May keep records of various types in conjunction with the files. May lead a small group of lower level file clerks.

MESSENGER

(4745: Messenger)

Performs various routine duties such as running errands, operating minor office machines such as sealers or mailers, opening mail, distributing mail on a regularly scheduled route or in a familiar area, and other minor clerical work. May deliver mail that requires some special handling, e.g., mail that is insured, registered, or marked for special delivery.

Excluded are positions which include any of the following as significant duties:

a. Operating motor vehicles;
b. Delivering valuables or security-classified mail when the work requires a continuing knowledge of special procedures for handling such items;
c. Weighing mail, determining postage, or recording and controlling registered, insured, and certified mail in the mail room;
d. Making deliveries to unfamiliar or widely separated buildings or points which are not part of an established route; or
e. Directing other workers.

ORDER CLERK

(4664: Order clerk)

Receives written or verbal customers' purchase orders for material or merchandise from customers or sales people. Work typically involves some combination of the following duties: Quoting prices; determining availability of ordered items and suggesting substitutes when necessary; advising expected delivery date and method of delivery; recording order and customer information on order sheets; checking order sheets for accuracy and adequacy of information recorded; ascertaining credit rating of customer; furnishing customer with acknowledgment of receipt of order; following up to see that order is delivered by the specified date or to let customer know of a delay in delivery; maintaining order file; checking shipping invoice against original order.

Exclude workers paid on a commission basis or whose duties include any of the following: Receiving orders for services rather than for material or merchandise; providing customers with consultative advice using knowledge gained from engineering or extensive technical training; emphasizing selling skills; handling material or merchandise as an integral part of the job.

Positions are classified into levels according to the following definitions:

Order Clerk I

Handles orders involving items which have readily identified uses and applications. May refer to a catalog, manufacturer's manual, or similar document to insure that proper item is supplied or to verify price of ordered item.

Order Clerk II

Handles orders that involve making judgments such as choosing which specific product or material from the establishment's product lines will satisfy the customer's needs, or determining the price to be quoted when pricing involves more than merely referring to a price list or making some simple mathematical calculations.

RECEPTIONIST

(4645: Receptionist)

Greets visitors, determines nature of visits, and directs visitors to appropriate persons. Receptionist duties may also include providing information, making appointments, answering a telephone (other than switchboard or console), keeping a log of visitors, and issuing visitor passes. May also perform typing or other routine clerical duties which may occupy a major portion of time, and are usually performed at the reception desk.

This classification excludes workers operating a telephone switchboard or console, performing guard duties, or performing more difficult clerical duties.

SWITCHBOARD OPERATOR

(4732: Telephone operator)

Operates a telephone switchboard or console used with a private branch exchange (PBX) system to relay incoming, outgoing, and intrasystem calls. May provide information to callers, record and transmit messages, keep record of calls placed and toll charges. Besides operating a telephone switchboard or console, may also type or perform routine clerical work (typing or routine clerical work may occupy the major portion of the worker's time, and is usually performed while at the switchboard or console). Chief or lead operators in establishments employing more than one operator are excluded. For an operator who also acts as a receptionist, see Switchboard operator-receptionist.

SWITCHBOARD OPERATOR-RECEPTIONIST

(4645: Receptionist)

At a single-position telephone switchboard or console, acts both as an operator—see Switchboard operator—and as a receptionist. Receptionist's work involves such duties as greeting visitors; determining nature of visitor's business and providing appropriate information; referring visitor to appropriate person in the organization or contacting that person by telephone and arranging an appointment; keeping a log of visitors.

Professional and Technical

NOTE: The following descriptions for computer systems analysts, programmers, and operators are derived from job descriptions developed for the National Survey of Professional, Administrative, Technical, and Clerical Pay (PATC). For the most part, they are comparable to the PATC descriptions for systems analysts and programmers levels I to IV and computer operators levels I to III. The level IV computer operator description is comparable to the combined levels IV, V, and VI PATC descriptions.

COMPUTER SYSTEMS ANALYST

(171:Computer systems analyst)

Analyzes business or scientific problems for resolution through electronic data processing. Gathers information from users, defines work problems, designs a system of computer programs and procedures to resolve the problems, and develops complete specifications (precise descriptions) to enable computer programmers to prepare required programs. May write the computer programs.

NOTE: Workers performing both systems analysis and programming should be classified as systems analysts if this is the skill used to determine their pay.

Excluded are:

a. Trainees who receive detailed directives and work plans, select authorized procedures for use in specific situations, and seek assistance for deviations and problems;
b. Positions which require a bachelor's degree in a specific scientific field (other than computer science); however, positions are potential matches where the required degree may be from any of several possible scientific fields;
c. Workers who primarily analyze and evaluate problems concerning computer equipment or its selection or utilization;
d. Computer systems analysts dealing primarily with system software which provides basic services for processing other work; however, positions matching this definition may develop a "total package" which includes not only analyzing work problems to be processed but also selecting the computer equipment and system software;
e. Top technical experts above level IV who develop broad unprecedented computer systems and/or conduct critical studies central to the success of large organizations having extensive technical or highly diversified computer requirements; and
f. Supervisors responsible for, or participating in hiring, firing, curtailing projects, reorganizing, or reallocating resources.

Positions are classified into levels on the basis of the following definitions:

Computer Systems Analyst I

Initial assignments are designed to expand practical experience in applying systems analysis techniques and procedures. Works independently carrying out factfinding and analysis of a single activity or routine problem. Applies established procedures where nature of system, feasibility, computer equipment, and programming language have already been decided. Adapts guides to specific situations. May solve routine user problems by modifying the existing system following clear precedents.

Supervisor defines objectives, priorities, and deadlines. Obtains advice where precedents are unclear or not available.

May direct technicians and others who assist in specific assignments.

Computer Systems Analyst II

Works independently developing or modifying a system of several varied sequences or formats where the nature of the system is predetermined. Recognizes probable interaction of related computer systems and predicts impact of a change in assigned system.

Typical duties include reviewing project proposals; gathering facts; analyzing data, preparing project synopses comparing alternatives; preparing specifications for programs; resolving processing problems; coordinating work with programmers; and orienting users.

Work requires competence in most phases of systems analysis and knowledge of system software and work processes.

May direct lower level analysts on assigned work. *OR*

Works on a segment of a complex data processing system as described for level III. Works independently on routine assignments and receives instruction and guidance on complex assignments.

Computer Systems Analyst III

Works independently maintaining and modifying complex systems or developing new subsystems. Systems typically input data from diverse sources and have multiple users.

Typical duties include guiding users in formulating requirements; analyzing project proposals; arbitrating conflicts between users; recommending optimum approach; and developing systems design. May serve as lead analyst directing and integrating the work of one or two lower level analysts.

Computer Systems Analyst IV

As a team or project leader, provides complete systems design in a highly complex area. The systems design establishes the framework from feasibility studies to post-implementation evaluation. May serve as the technical authority for a design area. At least one team member performs work at level III. *AND/OR*

As a staff specialist or consultant, resolves unique and unyielding systems problems using new technology. May be assisted on project by other analysts or technicians.

COMPUTER PROGRAMMER

(397:Programmer)

Converts specifications (precise descriptions) of business or scientific problems into a sequence of detailed instructions to solve the problems by digital computer. Draws program flow charts to describe the processing of data and develops the precise steps and processing logic which, when entered into the computer in coded language, cause the manipulation of data to achieve desired results. Tests and corrects programs and prepares instructions for operators who control the computer during production runs. Modifies programs to increase operating efficiency or to respond to changes in work processes; maintains records to document program development and revisions.

NOTE: Workers performing both systems analysis and programming should be classified as systems analysts if this is the skill used to determine their pay.

Excluded are:

a. Positions which require a bachelor's degree in a specific scientific field (other than computer science); however, positions are potential matches where the required degree may be from any of several possible scientific fields;
b. Workers who primarily analyze and evaluate problems concerning computer equipment or its selection or utilization;
c. Computer programmers (e.g., systems programmers) dealing primarily with system software which provides basic services for processing other work; however, positions matching this definition may develop a "total package" which includes not only analyzing work problems to be processed but also selecting the computer equipment and system software;
d. Employees with significant responsibility for supervising workers other than programmers or functions other than computer programming;
e. Supervisors responsible for, or participating in hiring, firing, curtailing projects, reorganizing, or reallocating resources; and
f. Team leaders and consultants above level IV who define highly complex programming problems and direct the development of computer programs for their solution, *AND/OR*
Team leaders and consultants who design improvements for highly complex programming problems where few precedents exist.

Positions are classified into levels on the basis of the following definitions:

Computer Programmer I

Receives classroom and/or on-the-job training in computer programming concepts and requirements of the subject-matter field. Performs elementary programming tasks such as drawing flow charts, writing operator instructions, or coding and testing simple programs.

Detailed step-by-step instructions are given; work is closely monitored in progress and reviewed in detail upon completion. Deviations must be authorized by supervisor.

May perform routine programming tasks as described in level II under close supervision. Also may perform elementary factfinding concerning a specific work process.

Computer Programmer II

Maintains and modifies routine programs. Work progresses from initial assignments designed to develop competence to work requiring a knowledge of established procedures and data processing requirements. Typical tasks include amending flow charts; coding, testing, and documenting changes; and writing routine new programs.

May evaluate simple interrelationships in programs and obtain information from users to modify routine programs.

Assignments have clear-cut and complete specifications and the format of the final product is very similar to that of the inputs. Work is monitored in progress and reviewed upon completion.

Computer Programmer III

As a fully qualified computer programmer, develops, modifies, and maintains conventional programs. Uses standard procedures and detailed specifications to independently devise program logic (may include translating mathematical notation), modify interrelationship of files and records, diagnose and correct errors, test and document work, and write computer operator instructions. The programs developed are typically linked to several other programs, with a variety of input records and varied formats produced in the output.

In addition, may analyze a single activity or routine problem when the nature of the programs, feasibility, and type of computer language and equipment have already been determined. Completed work is reviewed for conformance to standards, timeliness, and efficiency. May also guide or instruct lower level programmers, technicians, and others who assist on assignments. *OR*

Under close supervision, works on complex programs as described in level IV.

Computer Programmer IV

As an expert programmer, independently develops, modifies, and maintains complex programs which produce several interrelated but different products. Programs use data from diverse sources and have multiple users. Tests, documents, and writes operating instructions for all work.

May perform programming analysis such as investigating the feasibility of developing alternate programs, assisting users in defining needs, or participating on an EDP and user team working on large and complicated programs.

Completed work is reviewed for timeliness, compatibility with other work, and effectiveness in meeting requirements. May function as team leader of a few lower level programmers or technicians on assigned work.

COMPUTER OPERATOR

(4612:Computer operator)

Monitors and operates the control console of either a main-frame digital computer or a group of mini-computers, in accordance with operating instructions, to process data. Work is characterized by the following:

Studies operating instructions to determine equipment setup needed;
Loads equipment with required items (tapes, cards, paper, etc.);
Switches necessary auxiliary equipment into system;
Starts and operates console;
Diagnoses and corrects equipment malfunctions;
Reviews error messages and makes corrections during operation or refers problems;
Maintains operating record.

May test run new or modified programs and assist in modifying systems or programs. Included within the scope of this definition are fully qualified computer operators, trainees working to become fully qualified operators, and lead operators providing technical assistance to lower level positions.

Excluded are:

a. Workers operating small computer systems where there is little or no opportunity for operator intervention in program processing and few requirements to correct equipment malfunctions;
b. Peripheral equipment operators and remote terminal or computer operators who do not run the control console of either a main-frame digital computer or a group of mini-computers (see peripheral equipment operator); and
c. Workers using the computer for scientific, technical, or mathematical work when a knowledge of the subject matter is required.

Positions are classified into levels on the basis of the following definitions:

Computer Operator I

Receives on-the-job training in operating the control console (sometimes augmented by classroom training). Works under close personal supervision and is provided detailed written or oral guidance before and during assignments. As instructed, resolves common operating problems. May serve as an assistant operator working under close supervision or performing a portion of a more senior operator's work.

Computer Operator II

Processes scheduled routines which present few difficult operating problems (e.g., infrequent or easily resolved error conditions). In response to computer output instructions or error conditions, applies standard operating or corrective procedure. Refers problems which do not respond to preplanned procedure. May serve as an assistant operator, working under general supervision.

Computer Operator III

Processes a range of scheduled routines. In addition to operating the system and resolving common error conditions, diagnoses and acts on machine stoppage and error conditions not fully covered by existing procedures and guidelines (e.g., resetting switches and other controls or making mechanical adjustments to maintain or restore equipment operations). In response to computer output instructions or error conditions, may deviate from standard procedures if standard procedures do not provide a solution. Refers problems which do not respond to corrective procedures.

Computer Operator IV

Resolves a variety of nonstandard problems (e.g., frequent new programs, applications, and procedures). Problems may require unusual equipment connections and channel configurations. May also provide technical assistance to lower level operators and use knowledge of program languages, computer features, and software systems in assisting programmers, systems analysts, and other users in resolving problems. Completed work is usually submitted to users without supervisory review.

PERIPHERAL EQUIPMENT OPERATOR

(4613: Peripheral equipment operator)

Operates peripheral equipment which directly supports digital computer operations. Such equipment is uniquely and specifically designed for computer applications, but need not be physically or electronically connected to a computer. Printers, plotters, card read/punches, tape readers, tape units or drives, disk units or drives, and data display units are examples of such equipment.

The following duties characterize the work of a peripheral equipment operator:

a. Loading printers and plotters with correct paper; adjusting controls for forms, thickness, tension, printing density, and location; and unloading hard copy;
b. Labeling tape reels, disks, or card decks;
c. Checking labels and mounting and dismounting designated tape reels or disks on specified units or drives;
d. Setting controls which regulate operation of the equipment;
e. Observing panel lights for warnings and error indications and taking appropriate action;
f. Examining tapes, cards, or other material for creases, tears, or other defects which could cause processing problems.

This classification excludes workers (1) who monitor and operate a control console (see Computer operator) or a remote terminal, or (2) whose duties are limited to operating decollaters, bursters, separators, or similar equipment.

COMPUTER DATA LIBRARIAN

(4696: File clerk)
(4754: Stock and inventory clerk)

Maintains library of media (tapes, disks, cards, cassettes) used for automatic data processing applications. The following or similar duties characterize the work of a computer data librarian: Classifying, cataloging, and storing media in accordance with a standardized system; upon proper requests, releasing media for processing; maintaining records of releases and returns; inspecting returned media for damage or excessive wear to determine whether or not they need replacing. May perform minor repairs to damaged tapes.

DRAFTER

(372: Drafting occupation)

Performs drafting work requiring knowledge and skill in drafting methods, procedures, and techniques. Prepares drawings of structures, mechanical and electrical equipment, piping and duct systems and other similar equipment, systems, and assemblies. Uses recognized systems of symbols, legends, shadings, and lines having specific meanings in drawings. Drawings are used to communicate engineering ideas, designs, and information in support of engineering functions.

The following are excluded when they constitute the primary purpose of the job:

a. Design work requiring the technical knowledge, skill, and ability to conceive or originate designs;
b. Illustrating work requiring artistic ability;
c. Work involving the preparation of charts, diagrams, room arrangements, floor plans, etc.;
d. Cartographic work involving the preparation of maps or plats and related materials, and drawings of geological structures; and
e. Supervisory work involving the management of a drafting program or the supervision of drafters.

Positions are classified into levels on the basis of the following definitions:

Drafter I

Working under close supervision, traces or copies finished drawings, making clearly indicated revisions. Uses appropriate templates to draw curved lines. Assignments are designed to develop increasing skill in various drafting techniques. Work is spot-checked during progress and reviewed upon completion.

NOTE: Exclude drafters performing elementary tasks while receiving training in the most basic drafting methods.

Drafter II

Prepares drawings of simple, easily visualized parts of equipment from sketches or marked-up prints. Selects appropriate templates and other equipment needed to complete assignments. Drawings fit familiar patterns and present few technical problems. Supervisor provides detailed instructions on new assignments, gives guidance when questions arise, and reviews completed work for accuracy.

Drafter III

Prepares various drawings of parts and assemblies, including sectional profiles, irregular or reverse curves, hidden lines, and small or intricate details. Work requires use of most of the conventional drafting techniques and a working knowledge of the terms and procedures of the industry. Familiar or recurring work is assigned in general terms; unfamiliar assignments include information on methods, procedures, sources of information, and precedents to be followed. Simple revisions to existing drawings may be assigned with a verbal explanation of the desired results; more complex revisions are produced from sketches which clearly depict the desired product.

Drafter IV

Prepares complete sets of complex drawings which include multiple views, detail drawings, and assembly drawings. Drawings include complex design features that require considerable drafting skill to visualize and portray. Assignments regularly require the use of mathematical formulas to compute weights, load capacities, dimensions, quantities of materials, etc. Working from sketches and verbal information supplied by an engineer or designer, determines the most appropriate views, detail drawings, and supplementary information needed to complete assignments. Selects required information from precedents, manufacturers' catalogs, and technical guides. Independently resolves most of the problems encountered. Supervisor or designer may suggest methods of approach or provide advice on unusually difficult problems.

NOTE: Exclude drafters performing work of similar difficulty to that described at this level but who provide support for a variety of organizations which have widely differing functions or requirements.

Drafter V

Works closely with design originators, preparing drawings of unusual, complex or original designs which require a high degree of precision. Performs unusually difficult assignments requiring considerable initiative, resourcefulness, and drafting expertise. Assures that anticipated problems in manufacture, assembly, installation, and operation are resolved by the drawings produced. Exercises independent judgment in selecting and interpreting data based on a knowledge of the design intent. Although working primarily as a drafter, may occasionally perform engineering design work in interpreting general designs prepared by others or in completing missing design details. May provide advice and guidance to lower level drafters or serve as coordinator and planner for large and complex drafting projects.

ELECTRONICS TECHNICIAN

(3711: Electrical and electronic engineering technologist and technician)
(615: Electrical and electronic equipment repairer)

Works on various types of electronic equipment and related devices by performing one or a combination of the following: Installing, maintaining, repairing, overhauling, troubleshooting, modifying, constructing, and testing. Work requires practical application of technical knowledge of electronics principles, ability to determine malfunctions, and skill to put equipment in required operating condition.

The equipment—consisting of either many different kinds of circuits or multiple repetition of the same kind of circuit—includes, but is not limited to, the following: (a) Electronic transmitting and receiving equipment (e.g., radar, radio, television, telephone, sonar, navigational aids), (b) digital and analog computers, and (c) industrial and medical measuring and controlling equipment.

This classification excludes repairers of such standard electronic equipment as common office machines and household radio and television sets; production assemblers and testers; workers whose primary duty is servicing electronic test instruments; technicians who have administrative or supervisory responsibility; and drafters, designers, and professional engineers.

Positions are classified into levels on the basis of the following definitions:

Electronics Technician I

Applies working technical knowledge to perform simple or routine tasks in working on electronic equipment, following detailed instructions which cover virtually all procedures. Work typically involves such tasks as: Assisting higher level technicians by performing such activities as replacing components, wiring circuits, and taking test readings; repairing simple electronic equipment; and using tools and common test instruments (e.g., multimeters, audio signal generators, tube testers, oscilloscopes). Is not required to be familiar with the interrelationships of circuits. This knowledge, however, may be acquired through assignments designed to increase competence (including classroom training) so that worker can advance to higher level technician.

Receives technical guidance, as required, from supervisor or higher level technician. Work is typically spot-checked, but is given detailed review when new or advanced assignments are involved.

Electronics Technician II

Applies comprehensive technical knowledge to solve complex problems (i.e., those that typically *can* be solved solely by properly interpreting manufacturers' manuals or similar documents) in working on electronic equipment. Work involves: A familiarity with the interrelationships of circuits; and judgment in determining work sequence and in selecting tools and testing instruments, usually less complex than those used by the level III technician.

Receives technical guidance, as required, from supervisor or higher level technician, and work is reviewed for specific compliance with accepted practices and work assignments. May provide technical guidance to lower level technicians.

Electronics Technician III

Applies advanced technical knowledge to solve unusually complex problems (i.e., those that typically *cannot* be solved solely by reference to manufacturers' manuals or similar documents) in working on electronic equipment. Examples of such problems include location and density of circuitry, electromagnetic radiation, isolating malfunctions, and frequent engineering changes. Work involves: A detailed understanding of the interrelationships of circuits; exercising independent judgment in performing such tasks as making circuit analyses, calculating wave forms, tracing relationships in signal flow; and regularly using complex test instruments (e.g., dual trace oscilloscopes, Q-meters, deviation meters, pulse generators).

Work may be reviewed by supervisor (frequently an engineer or designer) for general compliance with accepted practices. May provide technical guidance to lower level technicians.

REGISTERED INDUSTRIAL NURSE

(29: Registered nurse)

A registered nurse gives nursing service under general medical direction to ill or injured employees or other persons who become ill or suffer an accident on the premises of a factory or other establishment. Duties involve *a combination of the following*: Giving first aid to the ill or injured; attending to subsequent dressing of employees' injuries; keeping records of patients treated; preparing accident reports for compensation or other purposes; assisting in physical examinations and health evaluations of applicants and employees; and planning and carrying out programs involving health education, accident prevention, evaluation of plant environment, or other activities affecting the health, welfare, and safety of all personnel. Nursing supervisors or head nurses in establishments employing more than one nurse are excluded.

Maintenance, Toolroom, and Powerplant

MAINTENANCE CARPENTER

(6422: Carpenter)

Performs the carpentry duties necessary to construct and maintain in good repair building woodwork and equipment such as bins, cribs, counters, benches, partitions, doors, floors, stairs, casings, and trim made of wood in an establishment. Work involves *most of the following*: Planning and laying out of work from blueprints, drawings, models, or verbal instructions; using a variety of carpenter's handtools, portable power tools, and standard measuring instruments; making standard shop computations relating to dimensions of work; and selecting materials necessary for the work. In general, the work of the maintenance carpenter requires rounded training and experience usually acquired through a formal apprenticeship or equivalent training and experience.

MAINTENANCE ELECTRICIAN

(615: Electrical and electronic equipment repairer)
(6432: Electrician)

Performs a variety of electrical trade functions such as the installation, maintenance, or repair of equipment for the generation, distribution, or utilization of electric energy in an establishment. Work involves *most of the following*: Installing or repairing any of a variety of electrical equipment such as generators, transformers, switchboards, controllers, circuit breakers, motors, heating units, conduit systems, or other transmission equipment; working from blueprints, drawings, layouts, or other specifications; locating and diagnosing trouble in the electrical system or equipment; working standard computations relating to load requirements of wiring or electrical equipment; and using a variety of electrician's handtools and measuring and testing instruments. In general, the work of the maintenance electrician requires rounded training and experience usually acquired through a formal apprenticeship or equivalent training and experience.

MAINTENANCE PAINTER

(6442: Painter, construction and maintenance)

Paints and redecorates walls, woodwork, and fixtures of an establishment. Work *involves the following*: Knowledge of surface peculiarities and types of paint required for different applications; preparing surface for painting by removing old finish or by placing putty or filler in nail holes and interstices; and applying paint with spray gun or brush. May mix colors, oils, white lead, and other paint ingredients to obtain proper color or consistency. In general, the work of the maintenance painter requires rounded training and experience usually acquired through a formal apprenticeship or equivalent training and experience.

MAINTENANCE MACHINIST

(613: Industrial machinery repairer)

Produces replacement parts and new parts in making repairs of metal parts of mechanical equipment operated in an establishment. Work involves *most of the following*: Interpreting written instructions and specifications; planning and laying out of work; using a variety of machinist's handtools and precision measuring instruments; setting up and operating standard machine tools; shaping of metal parts to close tolerances; making standard shop computations relating to dimensions of work, tooling, feeds, and speeds of machining; knowledge of the working properties of the common metals; selecting standard materials, parts, and equipment required for this work; and fitting and assembling parts into mechanical equipment. In general, the machinist's work normally requires a rounded training in machine-shop practice usually acquired through a formal apprenticeship or equivalent training and experience.

MAINTENANCE MECHANIC (MACHINERY)

(613: Industrial machinery repairer)

Repairs machinery or mechanical equipment of an establishment. Work involves *most of the following*: Examining machines and mechanical equipment to diagnose source of trouble; dismantling or partly dismantling machines and performing repairs that mainly involve the use of handtools in scraping and fitting parts; replacing broken or defective parts with items obtained from stock; ordering the production of a replacement part by a machine shop or sending the machine to a machine shop for major repairs; preparing written specifications for major repairs or for the production of parts ordered from machine shops; reassembling machines; and making all necessary adjustments for operation. In general, the work of a machinery maintenance mechanic requires rounded training and experience usually acquired through a formal apprenticeship or equivalent training and experience. Excluded from this classification are workers whose *primary duties* involve setting up or adjusting machines.

MAINTENANCE PIPEFITTER

(645: Plumber, pipefitter, and steamfitter)

Installs or repairs water, steam, gas, or other types of pipe and pipefittings in an establishment. Work involves *most of the following*: Laying out work and measuring to locate position of pipe from drawings or other written specifications; cutting various sizes of pipe to correct lengths with chisel and hammer or oxyacetylene torch or pipe-cutting machines; threading pipe with stocks and dies; bending pipe by hand-driven or power-driven machines; assembling pipe with couplings and fastening pipe to hangers; making standard shop computations relating to pressures, flow, and size of pipe

required; and making standard tests to determine whether finished pipes meet specifications. In general, the work of the maintenance pipefitter requires rounded training and experience usually acquired through a formal apprenticeship or equivalent training and experience. *Workers primarily engaged in installing and repairing building sanitation or heating systems are excluded.*

MILLWRIGHT

(6178: Millwright)

Installs new machines or heavy equipment, and dismantles and installs machines or heavy equipment when changes in the plant layout are required. Work involves *most of the following*: Planning and laying out work; interpreting blueprints or other specifications; using a variety of handtools and rigging; making standard shop computations relating to stresses, strength of materials, and centers of gravity; aligning and balancing equipment; selecting standard tools, equipment, and parts to be used; and installing and maintaining in good order power transmission equipment such as drives and speed reducers. In general, the millwright's work normally requires a rounded training and experience in the trade acquired through a formal apprenticeship or equivalent training and experience.

MOTOR VEHICLE MECHANIC

(611: Vehicle and mobile equipment mechanic and repairer)

Repairs, rebuilds, or overhauls major assemblies of internal combustion automobiles, buses, trucks, or tractors of an establishment. Work involves most of the following: Diagnosing the source of trouble and determining the extent of repairs required; replacing worn or broken parts such as piston rings, bearings, or other engine parts; grinding and adjusting valves; rebuilding carburetors; overhauling transmissions; and repairing fuel injection, lighting, and ignition systems. In general, the work of the motor vehicle mechanic requires rounded training and experience usually acquired through a formal apprenticeship or equivalent training and experience.

This classification does not include mechanics who repair customers' vehicles or who only perform minor repair and tuneup of motor vehicles. It does, however, include fully qualified journeymen mechanics even though most of their time may be spent on minor repairs and tuneups.

GENERAL MAINTENANCE WORKER

(6179: Mechanic and repairer, not elsewhere classified)

Performs general maintenance and repair of building structures and their mechanical, electrical, or sanitary systems. May also perform general maintenance and repair of the establishment's machinery. Work requires a basic practical knowledge of several maintenance trades in order to perform most of the following: Keeping in good repair building woodwork; replacing electrical switches, fixtures, and motors; occasional painting or touching up of structure or equipment; repairing or replacing plumbing fixtures; and replacing broken window panes.

Excluded are positions requiring a formal apprenticeship or equivalent training in one or more crafts. Also excluded are workers participating in such a program.

MAINTENANCE TRADES HELPER

(863: Helper; mechanic and repairer)

(864: Helper; construction trades)

Assists one or more workers in the skilled maintenance trades by performing specific or general duties of lesser skill, such as keeping a worker supplied with materials and tools; cleaning working area, machine, and equipment; assisting journeyman by holding materials or tools; and performing other unskilled tasks as directed by journeyman. The kind of work the helper is permitted to perform varies from trade to trade: In some trades the helper is confined to supplying, lifting, and holding materials and tools, and cleaning working areas; and in others he is permitted to perform specialized machine operations, or parts of a trade that are also performed by workers on a full-time basis.

MACHINE-TOOL OPERATOR (TOOLROOM)

(6813: Machinist)

(731-2: Metalworking and plasticworking machine setup operator)

Specializes in operating one or more than one type of machine tool (e.g., jig borer, grinding machine, engine lathe, milling machine) to machine metal for use in making or maintaining jigs, fixtures, cutting tools, gauges, or metal dies or molds used in shaping or forming metal or nonmetallic material (e.g., plastic, plaster, rubber, glass). *Work typically involves*: Planning and performing difficult machining operations which require complicated setups or a high degree of accuracy; setting up machine tool or tools (e.g., install cutting tools and adjust guides, stops, working tables, and other controls to handle the size of stock to be machined; determine proper feeds, speeds, tooling, and operation sequence or select those prescribed in drawings, blueprints, or layouts); using a variety of precision measuring instruments; making necessary adjustments during machining operation to achieve requisite dimensions to very close tolerances. May be required to select proper coolants and cutting and lubricating oils, to recognize when tools need dressing, and to dress tools. In general, the work of a machine-tool operator (toolroom) at the skill level called for in this classification requires extensive knowledge of machine-shop and toolroom practice usually acquired through considerable on-the-job training and experience.

For cross-industry wage study purposes, this classification does *not* include machine-tool operators (toolroom) employed in tool and die jobbing shops.

TOOL AND DIE MAKER

(6811: Tool and die maker)

Constructs and repairs jigs, fixtures, cutting tools, gauges, or metal dies or molds used in shaping or forming metal or nonmetallic material (e.g., plastic, plaster, rubber, glass). *Work typically involves*: Planning and laying out work according to models, blueprints, drawings, or other written or oral specifications; understanding the working properties of common metals and alloys; selecting appropriate materials, tools, and processes required to complete task; making necessary shop computations; setting up and operating various machine tools and related equipment; using various tool and die maker's handtools and precision measuring instruments; working to very close tolerances; heat-treating metal parts and finished tools and dies to achieve required qualities; fitting and assembling parts to prescribed tolerances and allowances. In general, the tool and die maker's work requires rounded training in machine-shop and toolroom practice usually acquired through formal apprenticeship or equivalent training and experience.

For cross-industry wage study purposes, this classification does *not* include tool and die makers who (1) are employed in tool and die jobbing shops or (2) produce forging dies (die sinkers).

STATIONARY ENGINEER

(6931: Stationary engineer)

Operates and maintains one or more systems which provide an establishment with such services as heat, air-conditioning (cool, humidify, dehumidify, filter, and circulate air), refrigeration, steam or high-temperature water, or electricity. Duties involve: Observing and interpreting readings on gauges, meters, and charts which register various aspects of the system's operation; adjusting controls to insure safe and efficient operation of the system and to meet demands for the service provided; recording in logs various aspects of the system's operation; keeping the engines, machinery, and equipment of the system in good working order. May direct and coordinate activities of other workers (not stationary engineers) in performing tasks directly related to operating and maintaining the system or systems.

The classification excludes head or chief engineers in establishments employing more than one engineer; workers required to be skilled in the repair of electronic control equipment; workers in establishments producing electricity, steam, or heated or cooled air primarily for sale; and boiler tenders.

Material Movement and Custodial

TRUCKDRIVER

(821: Motor vehicle operator)

Drives a truck within a city or industrial area to transport materials, merchandise, equipment, or workers between various types of establishments such as: Manufacturing plants, freight depots, warehouses, wholesale and retail establishments, or between retail establishments and customers' houses or places of business. May also load or unload truck with or without helpers, make minor mechanical repairs, and keep truck in good working order. *Salesroute and over-the-road drivers are excluded.*

For wage study purposes, truckdrivers are classified by type and rated capacity of truck, as follows:

Truckdriver, light truck
(straight truck, under 1 1/2 tons, usually 4 wheels)
Truckdriver, medium truck
(straight truck, 1 1/2 to 4 tons inclusive, usually 6 wheels)
Truckdriver, heavy truck
(straight truck, over 4 tons, usually 10 wheels)
Truckdriver, tractor-trailer

SHIPPER AND RECEIVER

(4753: Traffic, shipping and receiving clerk)

Performs *clerical and physical* tasks in connection with shipping goods of the establishment in which employed and receiving incoming shipments. In performing day-to-day, routine tasks, follows established guidelines. In handling unusual nonroutine problems, receives specific guidance from supervisor or other officials. May direct and coordinate the activities of other workers engaged in handling goods to be shipped or being received.

Shippers typically are responsible for most of the following: Verifying that orders are accurately filled by comparing items and quantities of goods gathered for shipment against documents; insuring that shipments are properly packaged, identified with shipping information, and loaded into transporting vehicles; preparing and keeping records of goods shipped, e.g., manifests, bills of lading.

Receivers typically are responsible for most of the following: Verifying the correctness of incoming shipments by comparing items and quantities unloaded against bills of lading, invoices, manifests, storage receipts, or other records; checking for damaged goods; insuring that goods are appropriately identified for routing to departments within the establishment; preparing and keeping records of goods received.

For wage study purposes, workers are classified as follows:

Shipper
Receiver
Shipper and receiver

WAREHOUSEMAN

(4754: Stock and inventory clerk)

As directed, performs a *variety* of *warehousing* duties which require an *understanding of the establishment's storage plan.* Work involves *most of the following*: Verifying materials (or merchandise) against receiving documents, noting and reporting discrepancies and obvious damages; routing materials to prescribed storage locations; storing, stacking, or palletizing materials in accordance with prescribed storage methods; rearranging and taking inventory of stored materials; examining stored materials and reporting deterioration and damage; removing material from storage and preparing it for shipment. May operate hand or power trucks in performing warehousing duties.

Exclude workers whose *primary* duties involve shipping and receiving work (see Shipper and receiver and Shipping packer), order filling (see Order filler), or operating power trucks (see Power-truck operator).

ORDER FILLER

(4754: Stock and inventory clerk)

Fills shipping or transfer orders for finished goods from stored merchandise in accordance with specifications on sales slips, customers' orders, or other instructions. May, in addition to filling orders and indicating items filled or omitted, keep records of outgoing orders, requisition additional stock or report short supplies to supervisor, and perform other related duties.

SHIPPING PACKER

(8761: Hand packer and packager)

Prepares finished products for shipment or storage by placing them in shipping containers, the specific operations performed being dependent upon the type, size, and number of units to be packed, the type of container employed, and method of shipment. Work requires the placing of items in shipping containers and *may involve one or more of the following*: Knowledge of various items of stock in order to verify content; selection of appropriate type and size of container; inserting enclosures in container; using excelsior or other material to prevent breakage or damage; closing and sealing container; and applying labels or entering identifying data on container. *Packers who also make wooden boxes or crates are excluded.*

MATERIAL HANDLING LABORER

(8726: Freight, stock, and material mover, not elsewhere classified)

Performs physical tasks to transport or store materials or merchandise. Duties involve *one or more of the following:* Manually loading or unloading freight cars, trucks, or other transporting devices; unpacking, shelving, or placing items in proper storage locations; or transporting goods by handtruck, cart, or wheelbarrow.

Excluded from this definition are workers whose primary function involves:

a. Participating directly in the production of goods (e.g., moving items from one production station to another or placing them on or removing them from the production process);
b. Stocking merchandise for sale;
c. Counting or routing merchandise;
d. Operating a crane or heavy-duty motorized vehicle such as forklift or truck;
e. Loading and unloading ships (longshore workers); or
f. Traveling on trucks beyond the establishment's physical location to load or unload merchandise.

POWER-TRUCK OPERATOR

(8318: Industrial truck and tractor equipment operator)

Operates a manually controlled gasoline- or electric-powered truck or tractor to transport goods and materials of all kinds about a warehouse, manufacturing plant, or other establishment.

For wage study purposes, workers are classified by type of powertruck, as follows:

Forklift operator
Power-truck operator (other than forklift)

GUARD

(5144: Guard and police, except public service)

Protects property from theft or damage, or persons from hazards or interference. Duties involve serving at a fixed post, making rounds on foot or by motor vehicle, or escorting persons or property. May be deputized to make arrests. May also help visitors and customers by answering questions and giving directions.

Guards employed by establishments which provide protective services on a contract basis are included in this occupation.

For wage study purposes, guards are classified as follows:

Guard I

Carries out instructions primarily oriented toward insuring that emergencies and security violations are readily discovered and reported to appropriate authority. Intervenes directly only in situations which require minimal action to safeguard property or persons. Duties require minimal training. Commonly, the guard is not required to demonstrate physical fitness. May be armed, but generally is not required to demonstrate proficiency in the use of firearms or special weapons.

Guard II

Enforces regulations designed to prevent breaches of security. Exercises judgment and uses discretion in dealing with emergencies and security violations encountered. Determines whether first response should be to intervene directly (asking for assistance when deemed necessary and time allows), to keep situation under surveillance, or to report situation so that it can be handled by appropriate authority. Duties require specialized training in methods and techniques of protecting security areas. Commonly, the guard is required to demonstrate continuing physical fitness and proficiency with firearms or other special weapons.

JANITOR, PORTER, OR CLEANER

(5244: Janitor and cleaner)

Cleans and keeps in an orderly condition factory working areas and washrooms, or premises of an office, apartment house, or commercial or other establishment. Duties involve *a combination of the following*: Sweeping, mopping or scrubbing, and polishing floors; removing chips, trash, and other refuse; dusting equipment, furniture, or fixtures; polishing metal fixtures or trimmings; providing supplies and minor maintenance services; and cleaning lavatories, showers, and restrooms. *Workers who specialize in window washing are excluded.*

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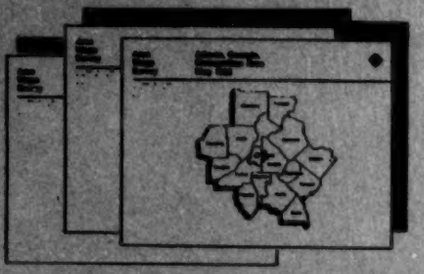

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